PAIN MANAGEMENT
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Agar, M., A. Broadbent, and R. Chye. "The management of malignant psoas syndrome: case reports and literature review." *Journal of Pain & Symptom Management* 28, no. 3(2004): 282-93 UI 15336342.

Malignant psoas syndrome (MPS) was first described in 1990, and is characterized by proximal lumbosacral plexopathy, painful fixed flexion of the ipsilateral hip, and radiological or pathological evidence of ipsilateral psoas major muscle malignant involvement. There have been 23 case reports of MPS in medical journals. Despite being associated with a severe and difficult pain, there is no definitive approach to management presented in the palliative care literature. We review the relevant clinical features and the subsequent multidisciplinary pain management in relation to four new cases of malignant involvement of the psoas muscle, and the 23 case reports in the literature. We propose that MPS comprises a continuum of symptoms and signs related to the degree of anatomical destruction with associated inflammatory reaction and muscle spasm, and also the degree of lumbosacral plexopathy causing neuropathic pain. A protocol is presented for the management of the complex pain issues of MPS directed at likely mechanisms. The treatment options include opioids, agents for neuropathic pain, muscle relaxants to manage psoas muscle spasm, and anti-inflammatory agents to reduce peritumoral edema. Direct anti-tumor measures also need to be considered. Further prospective study is needed to validate the proposed methods of assessment and treatment. [References: 44]

Akin, M., et al. "Continuous, low-level, topical heat wrap therapy as compared to acetaminophen for primary dysmenorrhea." *Journal of Reproductive Medicine* 49, no. 9(2004): 739-45 UI 15493566.

OBJECTIVE: To determine if pain relief provided by a wearable heat wrap (continuous, low-level, topical heat therapy) is superior to oral acetaminophen for primary dysmenorrhea. STUDY DESIGN: A randomized, active-controlled, multisite, single-blind (investigator), parallel-design study compared an abdominal wrap to an oral medication (acetaminophen, 1000 mg) over I day. Pain relief (0-5) and abdominal muscle tightness/cramping (0-100) were recorded at 12 time points. At 24 and 48 hours, menstrual symptom-based quality of life was assessed. RESULTS: Three hundred sixty-seven subjects entered the study, with 344 subjects evaluable. The heat wrap was superior to acetaminophen for pain relief over an 8-hour period (means of 2.48 and 2.17, p = 0.015) and at t hours 3, 4, 5 and 6 (p < or = 0.05). Tightness/cramping was less for the heat wrap versus acetaminophen over 8 hours (means of 40.4 and 44.5, p = 0.04) and at hours 4, 5 and 6 (p < or = 0.05). There was significantly decreased fatigue, fewer mood swings and less lower abdominal cramping (p < or = 0.05) with heat therapy. CONCLUSION: Continuous, low-level,

topical heat therapy was superior to acetaminophen for the treatment of dysmenorrhea.

American Academy of Pain, M., S. American Pain, and M. American Society of Addiction. "Public policy statement on the rights and responsibilities of health care professionals in the use of opioids for the treatment of pain: a consensus document from the american academy of pain medicine, the American Pain Society, and the American Society of Addiction Medicine." *Pain Medicine* 5, no. 3(2004): 301-2 UI 15367310.

Ander, D. S., et al. "Measuring the dyspnea of decompensated heart failure with a visual analog scale: how much improvement is meaningful?" *Congestive Heart Failure* 10, no. 4(2004): 188-91 UI 15314477.

Patients presenting to the emergency department with heart failure are evaluated based on the subjective sensation of dyspnea. In this study, the authors sought to determine the change in dyspnea, measured by a visual analog scale (VAS), which is associated with a meaningful change in the patient's perception and the effect of dyspnea severity on the VAS. In this prospective, observational study the authors defined a meaningful change in VAS dyspnea as the difference between VAS scores when patients reported "a little less difficulty breathing" or "a little more difficulty breathing." Seventy-four patients were evaluated, and the mean for a meaningful change in VAS was 21.1 mm (95% confidence interval, 12.3-29.9 mm). Patients that recorded higher index VAS scores had a significantly greater change in VAS. VAS scores and the changes with treatment provide the treating physician with another means to assess the effects of their interventions.

Anonymous. "Discrimination. Lambda: doctor's failure to treat HIV-positive patient illegal." *AIDS Policy & Law* 19, no. 20(2004): 22 UI 15562542.

Anonymous. "Drugs for pain." *Treatment Guidelines From the Medical Letter* 2, no. 23(2004): 47-54 UI 15529114.

Anonymous. "Feverfew for headaches." *Consumer Reports* 70, no. 1(2005) UI 15587528.

Anonymous. "Hypnosis: a safe and potent pain reliever." *Consumer Reports* 70, no. 1(2005) UI 15587526.

Anonymous. "Knee pain. Conservative treatment may be the answer." *Mayo Clinic Health Letter* 22, no. 10(2004) UI 15609435.

Anonymous. "Pain management in the emergency department." *Annals of Emergency Medicine* 44, no. 2(2004) UI 15612144.

Antall, G. F., and D. Kresevic. "The use of guided imagery to manage pain in an elderly orthopaedic population." *Orthopaedic Nursing* 23, no. 5(2004): 335-40 UI 15554471.

BACKGROUND: The management of postoperative pain in elderly orthopaedic patients is critical for advancing patient outcomes and improving the use of healthcare resources. Adequate pain control without adverse side effects, such as confusion and sedation, is crucial to promote comfort and participation in rehabilitation therapies among all patients but particularly among elderly joint replacement patients. Without adequate pain control, physical therapy is delayed and the risk of complications increases. One area of investigation that holds promise for improved treatment outcomes involves the use of complementary therapies, such as guided imagery. PURPOSE: The purpose of this pilot study was to test the effects of

a guided imagery intervention in the older adult patient who has undergone joint replacement surgery. SAMPLE AND METHODS: This pilot study used a two-group experimental repeated measures design. A sample of 13 patients, age 55 years and older, were recruited. The control group received usual care and a music audio tape. The experimental group received usual care and a guided imagery audio tape intervention. FINDINGS AND DISCUSSION: Trends in this pilot study demonstrated positive outcomes for pain relief, decreased anxiety, and decreased length of stay. Complementary therapy holds the promise of increasing positive outcomes. Further research is needed to validate these findings with a larger postoperative sample and in other populations as well. CLINICAL IMPLICATIONS: There is a critical need to incorporate the use of guided imagery and other complementary therapies into all nursing curricula. Nurses must develop expertise and be ready and able to act as patient educators and advocates in the use of these interventions in programs of care and institutional policy.

Apps, J. "Polar acupuncture." *Acupuncture in Medicine* 22, no. 3(2004): 156-8 UI 15551943.

Musculoskeletal disorders are common in people who undertake adventure travel to the Antarctic, and in those who support them, because of the hard physical demands and lack of rest. This paper describes the successful use of acupuncture as first line treatment for ten patients in these circumstances, and comments on its advantages, particularly in its capacity to reduce the use of non-steroidal anti-inflammatory drugs. [References: 0]

Arenal, J. J., et al. "Ileo-ceco-colic intussusception in a 92-year-old man." *Journal of the American Geriatrics Society* 52, no. 11(1966): 1966-8 UI 15507086.

Argoff, C. E., N. Katz, and M. Backonja. "Treatment of postherpetic neuralgia: a review of therapeutic options." *Journal of Pain & Symptom Management* 28, no. 4(2004): 396-411 UI 15471658.

Postherpetic neuralgia (PHN) is a disabling consequence of the reactivation of the varicella zoster infection. The observation that patients with PHN experience various types of pain suggests that multiple pathophysiologic mechanisms are involved, which may include the peripheral and central nervous systems. A reasonable initial strategy would involve selecting from among multiple agents that have complementary mechanisms of action and that have been proven effective in controlled clinical trials, such as the lidocaine patch 5%, gabapentin, tricyclic antidepressants, and opioids. Based on initial assessment and ongoing reassessment, sequential trials should be undertaken until adequate pain relief is achieved. This may ultimately lead to therapy with more than one medication. Safety and tolerability are important considerations in choosing initial therapy, particularly in older patients. Physicians can either add another agent to the current regimen or switch to a new type of monotherapy if there is inadequate response to initial therapy. Alternative therapies, (i.e., ketamine, intrathecal corticosteroid injections) have not been adequately studied. Well-designed, multicenter, controlled clinical trials are needed to develop a treatment algorithm that provides an evidence-based, rational approach to treating PHN. [References: 139]

Atallah, F., et al. "Postoperative analgesia and recovery after open and laparoscopic prostatectomy." *Anesthesia & Analgesia* 99, no. 6(1878): 1878-9 UI 15562103.

Audette, J. F., and A. H. Ryan. "The role of acupuncture in pain management." *Physical Medicine & Rehabilitation Clinics of North America* 15, no. 4(2004): 749-72 UI 15458750.

This article reviews the theories and applications of acupuncture to musculoskeletal pain management. First, Chinese theories of acupuncture are

discussed briefly. Next, current understanding of nociception and central pain modulation is discussed in detail,followed by discussion of the physiologic effect of acupuncture analgesia.Other theories of acupuncture analgesia are presented based on neuromodulation of the central nervous system. Finally,the efficacy of acupuncture for many musculoskeletal pain syndromes,including spine-related pain, soft tissue pain, neuropathic pain, arthritis of the knee, and upper extremity tendinitis, is reviewed.The article concludes with a discussion of methodologic issues related to conducting randomized, placebo-controlled trials of acupuncture and goals for future research in this area of pain management. [References: 54]

Benitez-Rosario, M. A., et al. "Opioid switching from transdermal fentanyl to oral methadone in patients with cancer pain." *Cancer* 101, no. 12(2004): 2866-73 UI 15529307.

BACKGROUND: Patients with cancer often are rotated from other opioids to methadone to improve the balance between analgesia and side effects. To the authors' knowledge, no clear guidelines currently exist for the safe and effective rotation from transdermal fentanyl to methadone. METHODS: The authors evaluated a protocol for switching opioid from transdermal fentanyl to oral methadone in 17 patients with cancer. Reasons for switching were uncontrolled pain (41.1% of patients) and neurotoxic side effects (58.9% of patients). Methadone was initiated 8-24 hours after fentanyl withdrawal, depending on the patient's previous opioid doses (from < 100 microg per hour to > 300 microg per hour). The starting methadone dose was calculated according to a 2-step conversion between transdermal fentanyl:oral morphine (1:100 ratio) and oral morphine:oral methadone (5:1 ratio or 10:1 ratio). The correlation between previous fentanyl dose and the final methadone dose or the fentanyl:methadone dose ratio was assessed by means of Pearson and Spearman correlation coefficients (r), respectively. A Friedman test was used to compare pain intensity before and after the switch and the use of daily rescue doses. RESULTS: Opioid rotation was fully or partially effective in 80% and 20%, respectively, of patients with somatic pain. Neuropathic pain was not affected by opioid switching. Delirium and myoclonus were reverted in 80% and 100% of patients, respectively, after opioid switching. A positive linear correlation was obtained between the fentanyl and methadone doses (Pearson r, 0.851). Previous fentanyl doses were not correlated with the final fentanyl:methadone dose ratios (Spearman r, - 0.327). CONCLUSIONS: The protocol studied provided a safe approach for switching from transdermal fentanyl to oral methadone, improving the balance between analgesia and side effects in patients with cancer.

Bertin, P., K. Keddad, and I. Jolivet-Landreau. "Acetaminophen as symptomatic treatment of pain from osteoarthritis." *Joint, Bone, Spine: Revue du Rhumatisme* 71, no. 4(2004): 266-74 UI 15288850.

Osteoarthritis is a major public health burden. The incidence of osteoarthritis increases with advancing age. Symptomatic treatments aimed at alleviating the pain and thereby restoring joint function form the basis of the treatment. The chronic course requires long-term treatment with special attention to minimizing the side effects of drugs. Acetaminophen has a good risk/benefit ratio that has prompted international consensus panels to recommend its use as first-line therapy in dosages of up to 4 g/day. This review discusses safety and efficacy data from randomized double-blind trials of acetaminophen used to alleviate pain caused by osteoarthritis. [References: 52]

Bhatia, A., et al. "Effect of intraoperative magnesium infusion on perioperative analgesia in open cholecystectomy." *Journal of Clinical Anesthesia* 16, no. 4(2004): 262-5 UI 15261316.

STUDY OBJECTIVE: To study the role of magnesium sulphate (MgSO4) on analgesic requirement, pain, discomfort, and sleep during perioperative period.

DESIGN: prospective, double-blinded, randomized study. SETTINGS: Operating room and recovery ward at a university teaching hospital. PATIENTS: 50 ASA physical status I and II patients scheduled for elective open cholecystectomy with general anesthesia. INTERVENTIONS: patients were randomly allocated to receive MgSO4 or saline intravenously (i.v.). Patients in the magnesium group received 50% MgSO4 (50 mg kg(-1)) in 100 mL saline and those in the control group received an equal volume of saline i.v. during the preoperative period followed by 50 mL hr(-1) infusion of either MgSO4 (15 mg kg(-1) hr(-1)) or saline until the end of surgery. MEASUREMENTS AND MAIN RESULTS: Morphine requirement, pain during rest and on coughing, discomfort, and insomnia were assessed during the postoperative period for 24 hours. Intravenous morphine 40 microg kg(-1) increments were given to all patients in the postoperative period for analgesia. Patients in the magnesium and control groups had similar morphine requirement during the first 24 hours postoperatively ($p = 0.07$). Patients in the magnesium group experienced less discomfort during the first hour after the operation. They also had better sleep quality during the first postoperative night than did the control group patients ($p < 0.05$). The frequency of side effects was similar in the two groups. CONCLUSION: Administration of intraoperative MgSO4 as an adjuvant analgesic in patients undergoing open cholecystectomy resulted in better pain relief and comfort in the first postoperative hour, but it did not significantly decrease the postoperative morphine requirement. Magnesium sulphate resulted in better sleep quality during the postoperative period, without any significant adverse effects. The role of MgSO4 as an adjuvant analgesic in open cholecystectomy needs to be studied further.

Bloch, Y., et al. "Use of topical application of lidocaine-prilocaine cream to reduce injection-site pain of depot antipsychotics." *Psychiatric Services* 55, no. 8(2004): 940-1 UI 15292547.

This study took place in Israel and examined the use of a local topical anesthetic cream to ameliorate the pain at the injection site caused by depot antipsychotic medications. Fifteen consecutive outpatients who had schizophrenia and who were under treatment with depot antipsychotic medications were enrolled in this randomized, double-blind, placebo-controlled crossover study. The patients received either lidocaine-prilocaine cream or a placebo one hour before the injection. The degree of pain at the injection site was quantified by the patients' use of a visual analogue scale five minutes after the injection. The application of the lidocaine-prilocaine cream led to a significant reduction of pain compared with the placebo.

Blossfeldt, P. "Acupuncture for chronic neck pain--a cohort study in an NHS pain clinic." *Acupuncture in Medicine* 22, no. 3(2004): 146-51 UI 15551941.

The study investigates the outcome of acupuncture for chronic neck pain in a cohort of patients referred to an NHS chronic pain clinic. One hundred and seventy two patients were selected for acupuncture over a period of 6.5 years. Treatment was given by a single acupuncturist and consisted of a course of needle acupuncture for an average of seven sessions per patient. Treatment outcome was measured by an oral rating scale of improvement at the end of treatment and at follow up six months and one year after treatment. Nineteen patients were withdrawn from treatment for various reasons, two for adverse events. One hundred and fifty three patients were evaluated, of whom 68% had a successful outcome from acupuncture, reporting an improvement in pain of at least 50%. The success rate was higher in patients with a short duration of pain: 85% in patients with pain for up to three months and 78% with pain for up to six months. Long-term follow up showed that 49% of the patients who completed treatment had maintained the benefit after six months, and 40% at one year. The results indicate that acupuncture can be an effective treatment for selected patients with chronic neck pain.

Body, J. J., et al. "Oral ibandronate improves bone pain and preserves quality of life in patients with skeletal metastases due to breast cancer." *Pain* 111, no. 3(2004): 306-12 UI 15363874.

The objective of this study is to assess the effect of oral ibandronate on bone pain and quality of life in women with metastatic bone disease from breast cancer. In two double-blind, placebo-controlled studies, 564 patients were randomised to receive oral ibandronate, 50mg once daily, or placebo for up to 96 weeks. Throughout the studies, we assessed bone pain (on a 5-point scale from 0=none to 4=intolerable), analgesic use (7-point scale) and quality of life (European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire-C30 [EORTC QLQ-C30], 100-point scale). Oral ibandronate significantly reduced and maintained bone-pain scores below baseline throughout the 96-week study period (at endpoint, -0.1 vs +0.2, P=0.001 vs placebo). Analgesic use increased in both groups; however, the increase was significantly less in the ibandronate group (0.60 vs 0.85, P=0.019). Although quality of life deteriorated during the study, the decrease in quality of life was significantly lower with ibandronate therapy (-8.3 vs -26.8, P=0.032). Drug-related adverse events were generally minor and as expected with oral bisphosphonates. Oral ibandronate had beneficial effects on bone pain and quality of life and was well tolerated. These results suggest that this treatment is of considerable clinical value as a co-analgesic to patients with painful bone metastases.

Borsook, D., R. Burstein, and L. Becerra. "Functional imaging of the human trigeminal system: opportunities for new insights into pain processing in health and disease." *Journal of Neurobiology* 61, no. 1(2004): 107-25 UI 15362156.

Peripheral inflammation or nerve damage result in changes in nervous system function, and may be a source of chronic pain. A number of animal studies have indicated that central neural plasticity, including sensitization of neurons within the spinal cord and brain, is part of the response to nervous system insult, and can result in the appearance of altered sensation, including pain. It cannot be assumed, however, that data obtained from animal models unambiguously reflects CNS changes that occur in humans. Currently, the only noninvasive approach to determining objective changes in neural processing and responsiveness within the CNS in humans is the use of functional imaging techniques. It is now possible to use functional magnetic resonance imaging (fMRI) to measure CNS activation in the trigeminal ganglion, spinal trigeminal nucleus, the thalamus, and the somatosensory cortex in healthy volunteers, in a surrogate model of hyperalgesia, and in patients with trigeminal pain. By offering a window into the temporal and functional changes that occur in the damaged nervous system in humans, fMRI can provide both insight into the mechanisms of normal and pathological pain and, potentially, an objective method for measuring altered sensation. These advances are likely to contribute greatly to the diagnosis and treatment of clinical pain conditions affecting the trigeminal system (e.g., neuropathic pain, migraine). [References: 165]

Briggs, M., et al. "Assessing pain at wound dressing-related procedures." *Nursing Times* 100, no. 41(2004): 56-7 UI 15517738.

This article is an abstract from a new guide, Principles of Best Practice: Minimising Pain at Wound Dressing-Related Procedures. It is an educational initiative of the World Union of Wound Healing Societies (WUWHS). The guide has been inspired by two seminal documents: the European Wound Management Association's position document, Pain at Wound Dressing Changes (EWMA, 2002), and Practical Treatment of Wound Pain and Trauma: A Patient-centred Approach (Reddy et al, 2003). As an international educational initiative, the WUWHS document is aimed at anyone involved in dressing-related procedures anywhere in the world. This article summarises the section on best practice in the assessment of wound pain.

Brunton, S. "Approach to assessment and diagnosis of chronic pain." *Journal of Family Practice* 53, no. 10 Suppl(2004) UI 15469763.

Buchbinder, R., et al. "Short course prednisolone for adhesive capsulitis (frozen shoulder or stiff painful shoulder): a randomised, double blind, placebo controlled trial." *Annals of the Rheumatic Diseases* 63, no. 11(1460): 1460-9 UI 15479896.

OBJECTIVE: To determine whether a short course of prednisolone is superior to placebo for improving pain, function, and range of motion in adhesive capsulitis. DESIGN: Double blind, randomised, placebo controlled trial. SETTING: Community based rheumatology practice in Australia. PARTICIPANTS: 50 participants (24 active, 26 placebo); 46 completed the 12 week protocol. Entry criteria were age > or =18 years, pain and stiffness in predominantly one shoulder for > or =3 weeks, and restriction of passive motion by >30 degrees in two or more planes.Interventions: 30 mg oral prednisolone/day for three weeks or placebo. MAIN OUTCOME MEASURES: Overall, night, and activity related pain, SPADI, Croft shoulder disability questionnaire, DASH, HAQ, SF-36, participant rated improvement, and range of active motion measured at baseline and at 3, 6, and 12 weeks. RESULTS: At 3 weeks, there was greater improvement in overall pain in the prednisolone group than in the placebo group (mean (SD) change from baseline, 4.1 (2.3) v 1.4 (2.3); adjusted difference in mean change between the two groups, 2.4 (95% CI, 1.1 to 3.8)). There was also greater improvement in disability, range of active motion, and participant rated improvement (marked or moderate overall improvement in 22/23 v 11/23; RR = 2 (1.3 to 3.1), p = 0.001). At 6 weeks the analysis favoured the prednisolone group for most outcomes but none of the differences was significant. At 12 weeks, the analysis tended to favour the placebo group. CONCLUSIONS: A three week course of 30 mg prednisolone daily is of significant short term benefit in adhesive capsulitis but benefits are not maintained beyond six weeks.

Buchser, E., et al. "Efficacy of intrathecal bupivacaine: how important is the flow rate?" *Pain Medicine* 5, no. 3(2004): 248-52 UI 15367302.

We present two cases of cancer patients with intractable mechanical and visceral pain that was unrelieved with either comprehensive medical management or intrathecal morphine who received intrathecal bupivacaine. While the continuous administration of a seemingly significant daily dose neither relieved pain nor caused measurable clinical changes, the addition of small, presumably negligible bolus doses on top of the continuous infusion resulted in spectacular pain control, clear thermoanalgesic suspended block, and in one of the patients, significant hypotension. To the best of our knowledge, such an observation has neither been reported before nor can we provide a satisfactory explanation for it. However, we believe it may have significant implications for the treatment of some patients, in particular, cancer patients with mechanical pain that cannot be adequately relieved with morphine whatever the route of administration.

Buhrman, M., et al. "Controlled trial of Internet-based treatment with telephone support for chronic back pain." *Pain* 111, no. 3(2004): 368-77 UI 15363881.

The purpose of this study was to investigate the effects of an Internet-based cognitive-behavioral intervention with telephone support for chronic back pain. Participants who met the criteria for chronic back pain (N=56) were randomly assigned to either an Internet-based cognitive behavioral self-help treatment or to a waiting-list control condition. The study period lasted 8 weeks and consisted of 1 week of self-monitoring prior to the intervention, 6 weeks of intervention, and 1 week of post-intervention assessment. Treatment consisted of education, cognitive skill acquisition, behavioral rehearsal, generalization and maintenance. The dropout rate was 9% (N=5). Results showed statistically significant improvements in catastrophizing, control over pain and ability to decrease pain. Some improvement was found in both the control group and the treatment group. A follow-up of 3

months after treatment termination was completed in 92% (N=47) of the participants who completed the treatment intervention. Follow-up results showed that some improvement was maintained. Findings indicate that Internet-based self-help with telephone support, based on established psychological treatment methods, holds promise as an effective approach for treating disability in association with pain.

Burian, M., et al. "Lack of anti-ischemic efficacy of the potassium channel opener bimakalim in patients with stable angina pectoris." *Cardiovascular Drugs & Therapy* 18, no. 1(2004): 37-46 UI 15115902.

Aim of the study was to evaluate anti-ischemic, hemodynamic and neurohumoral effects of bimakalim, a novel selective K(+)-channel opener, in patients with stable angina pectoris and reproducible ST-segment depression. METHODS AND RESULTS: 86 patients with angiographic signs of CAD were involved in two randomised, placebo-controlled, double-blind trials with single high (0.1, 0.3 or 0.6 mg) and low (0.025 or 0.05 mg) doses of oral bimakalim. The anti-anginal efficacy was evaluated by analysis of ST-segment depression within exercise or RV pacing. A parallel assessment of hemodynamic parameters was done by means of right-heart catheterization. Given in high doses, bimakalim acted as a potent vasodilator and decreased SBP by 15 mm Hg. This was associated with a reflex activation of sympathetic nervous system resulting in an increase in heart rate by 25 /min, a 14% rise of myocardial oxygen consumption and a 63% elevation of noradrenaline plasma level. Low doses of bimakalim had no significant effect on hemodynamics and oxygen consumption. In exercise-induced angina pectoris, administration of bimakalim was neither associated with attenuation of ST-segment depression nor resulted in prolongation of time to 0.1 mV ST-segment depression. CONCLUSION: The results of the present study suggest that bimakalim has a dose-dependent vasodilatatory activity but exerts no anti-ischemic benefits in patients with exercise-induced angina pectoris due to coronary artery disease.

Burkitt, P. "Finding the best holistic tool to assess pain in the acute setting.[comment]." *Nursing Times* 100, no. 42(2004): 19-25 UI 15543895.

Burton, A. W., et al. "Epidural and intrathecal analgesia is effective in treating refractory cancer pain.[see comment]." *Pain Medicine* 5, no. 3(2004): 239-47 UI 15367301.

The use of neuraxial (intrathecal and epidural) analgesia has been suggested in treatment guidelines put forth for the treatment of refractory cancer pain. We review the literature and present our algorithm for using neuraxial analgesia. We also present our outcomes using this algorithm over a 28-month period. We used neuraxial analgesia in 87 of 4,107 patients, approximately 2% of those seen for pain consultation. Evaluation of those patients at an 8-week follow-up revealed improved pain control. After institution of neuraxial analgesia, there was a significant reduction in the proportion of patients with severe pain (defined as a "pain worst" score in the severe range of 7-10), from 86% to 17%, noted to be highly statistically significant. At follow-up, numerical pain scores decreased significantly from 7.9 +/- 1.6 to 4.1 +/- 2.3. No difference was noted between the intrathecal and epidural groups. Oral opioid intake after instituting neuraxial analgesia revealed a significant decrease from 588 mg/day oral morphine equivalents to 294 mg/day. At follow-up, self-reported drowsiness and mental clouding (0-10) also significantly decreased from 6.2 +/- 3.0 and 5.4 +/- 3.4 to 3.2 +/- 3.0 and 3.1 +/- 3.0, respectively. This retrospective review shows promising efficacy of neuraxial analgesia in the context of failing medical management.

Cabrera, M. C., et al. "Efficacy of oral rofecoxib versus intravenous ketoprofen as an adjuvant to PCA morphine after urologic surgery." *Acta Anaesthesiologica Scandinavica* 48, no. 9(1190): 1190-3 UI 15352968.

BACKGROUND: Adjunctive use of nonsteroidal anti-inflammatory drugs has become increasingly popular in the perioperative period because of their opioid-sparing effects. This randomized, controlled, double-dummy study was designed to evaluate the cost-effectiveness of using oral rofecoxib as an alternative to intravenous ketoprofen for pain management in patients undergoing urologic surgery. METHODS: Seventy patients were randomly assigned to receive either a placebo (Control) or rofecoxib 50 mg po (Rofecoxib) 1 h prior to surgery. After a standardized spinal anesthetic, patients in the Control group received ketoprofen 100 mg IV q 8 h for 24 h, while the Rofecoxib group received an equivolume of saline at 8-h intervals for 24 h. Both groups were allowed to self-administer morphine (1 mg IV boluses) using a PCA delivery system. The need for 'rescue' analgesic medication, as well as pain scores [using an 11-point verbal rating scale (VRS) (0 = none to 10-severe)], were recorded at 1, 2, 6, 12, and 24-h intervals after surgery. In addition, the incidences of side-effects were recorded at the end of the study period. RESULTS: Total amount of morphine required in the initial 24-h postoperative period was nonsignificantly reduced in the Rofecoxib group (29 +/- 2 vs. 37 +/- 4 mg). More importantly, the percentage of patients reporting moderate-to-severe pain (VRS score > or =4) during the study period was lower in the Rofecoxib group (12 vs. 22%, $P < 0.05$). The daily cost of rofecoxib (USD 1.14 for 50-mg dose) was also significantly less than ketoprofen (USD 3.06 for three 100-mg doses). CONCLUSION: Premedication with oral rofecoxib (50 mg) is a cost-effective alternative to the parenteral nonselective NSAID, ketoprofen (100 mg q 8 h), when used as an adjuvant to PCA morphine for pain management after urologic surgery.

Campbell, P., et al. "Implementation of an ED protocol for pain management at triage at a busy Level I trauma center.[see comment]." *Journal of Emergency Nursing* 30, no. 5(2004): 431-8 UI 15452521.

Carbone, L. D., et al. "The relationship of antiresorptive drug use to structural findings and symptoms of knee osteoarthritis." *Arthritis & Rheumatism* 50, no. 11(2004): 3516-25 UI 15529367.

OBJECTIVE: To examine the cross-sectional association between use of medications that have a bone antiresorptive effect (estrogen, raloxifene, and alendronate) and both the structural features of knee osteoarthritis (OA), assessed by magnetic resonance imaging (MRI) and radiography, and the symptoms of knee OA in elderly women. METHODS: Women in the Health, Aging and Body Composition Study underwent MRI and radiography of the knee if they reported symptoms of knee OA, and women without significant knee symptoms were selected as controls. MR images of the knee were assessed for multiple features of OA using the Whole-Organ MRI scoring method, and radiographs were read for Kellgren and Lawrence grade and individual features of OA. Concurrent medication use and knee symptoms were assessed by interview, and knee pain severity was evaluated using the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC). RESULTS: There were 818 postmenopausal women from whom we obtained MR images of the knee and data on medication use. Among these women, 214 (26.2%) were receiving antiresorptive drugs. We found no significant association between overall use of antiresorptive drugs and the presence of knee pain and radiographic changes of OA of the knee. Use of alendronate, but not estrogen, was associated with less severity of knee pain as assessed by WOMAC scores. Both alendronate use and estrogen use were associated with significantly less subchondral bone attrition and bone marrow edema-like abnormalities in the knee as assessed by MRI, as compared with women who had not received these medications. CONCLUSION: Elderly women being treated with alendronate and estrogen had a significantly decreased prevalence of knee OA-related subchondral bone lesions compared with those reporting no use of these medications. Alendronate use was also associated with a reduction in knee pain according to the WOMAC scores.

Castellacci, E., and T. Polieri. "Antalgic effect and clinical tolerability of hyaluronic acid in patients with degenerative diseases of knee cartilage: an outpatient treatment survey." *Drugs Under Experimental & Clinical Research* 30, no. 2(2004): 67-73 UI 15272644.

A total of 40 outpatients (28 men and 12 women) aged between 18 and 82 years with primary or secondary symptomatic knee osteoarthritis (OA) were selected for this retrospective study. The patients were treated weekly with an intra-articular injection of hyaluronic acid of biofermentative origin. A total of five injections were given, with a follow-up visit at week 7. The aims of this study were to analyze the antalgic effect and tolerability of the procedure, evaluated by overall tolerance, Lequesne's Algo-Functional Index (AFI), pain level evolution and analgesic consumption. No systemic adverse effects related with the device were reported. Global tolerability was judged as excellent/good by almost all the patients and the investigator; 16 patients reported a mild burning sensation at the injection site, which was more frequent during the first injection and resolved within a few minutes. The mean value of the AFI decreased from 7.9 at the initial visit to 3.2 at the final visit, parallel to a decrease into the relative scores of the pain scale. We can thus conclude that intra-articular injection of hyaluronic acid of biofermentative origin appears to be a safe and effective therapy for gonarthritic pain.

Chang, H. M. "Pain and its management in patients with cancer." *Cancer Investigation* 22, no. 5(2004): 799-809 UI 15581060.

Chen, R. C., and J. C. Nickel. "Acupuncture for chronic prostatitis/chronic pelvic pain syndrome." *Current Urology Reports* 5, no. 4(2004): 305-8 UI 15260934.

Chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS) is prevalent in urological practice and has a significant impact on quality of life. Standard therapies often fail to achieve sustainable amelioration of symptoms. This article attempts to show that neuromodulatory treatment in the form of electroacupuncture can be a minimally invasive and effective treatment for CP/CPPS that is refractory to standard therapies. This neuromodulatory therapy lends support to the hypothesis that the end stage of CP/CPPS may be a neuropathic pain syndrome.

Chesebro, J. H. "Acute coronary syndromes: pathogenesis, acute diagnosis with risk stratification, and treatment." *American Heart Hospital Journal* 2, no. 4 Suppl 1(2004): 21-30 UI 15539972.

Acute ischemic chest pain at rest consistent with unstable angina or non-ST-elevation myocardial infarction is a common problem that may cause death or recurrent myocardial infarction within 30 days unless identified and risk stratified acutely. The latter may be done within 15 minutes by the history, physical exam, and electrocardiogram, and is aided by the measurement of troponin T/I. According to the Agency for Health Care Policy and Research guidelines, low-risk patients can be discharged home and rechecked within 72 hours. Intermediate-risk patients with no ST-segment changes with continuous monitoring and no elevation of troponin should undergo exercise stress testing by electrocardiogram (or nuclear or echocardiographic evaluation if electrocardiogram is non-analyzable). Patients with a negative stress test are low risk (no death or myocardial infarction at 30 days or 6 months) and can be discharged home. Patients with a positive test or who are at high risk according to the Agency for Health Care Policy and Research guidelines should undergo acute invasive testing for possible revascularization. Aspirin and low molecular weight heparin or unfractionated heparin, along with anti-ischemia therapy, is indicated in intermediate- or high-risk patients. The addition of clopidogrel is indicated in these patients, except in those who are potential candidates for coronary artery bypass graft. Platelet glycoprotein IIb/IIIa inhibitors are indicated in high-risk patients likely to undergo percutaneous coronary

intervention, should be started early if recurrent ischemia occurs, but are not indicated in lower-risk patients who do not require percutaneous coronary intervention. Intensive secondary prevention should be started before dismissal. [References: 35]

Chiechio, S., et al. "Metabotropic receptors as targets for drugs of potential use in the treatment of neuropathic pain." *Journal of Endocrinological Investigation* 27, no. 6 Suppl(2004): 171-6 UI 15481819.

Glutamate is the major neurotransmitter in the mammalian central nervous system and plays a pivotal role in both acute and chronic pain. The actions of glutamate are mediated by two receptor families: ionotropic glutamate receptors (iGluRs), and metabotropic glutamate receptors (mGluRs). Activation of glutamate receptor can elicit both hyperalgesic and analgesic effects. Eight mGluRs subtypes (mGluR1-mGluR8) have been identified and classified into three groups. Among these, group I mGluRs (mGlu1 and -5) have been implicated in the processes of central sensitization and persistent nociception, whereas activation of group II mGluRs (mGlu2/3) is effective against neuropathic or inflammatory pain. In this review we focus on the role of mGlu2/3 in the modulation of persistent pain, and on their potential use as drug targets in pain management. [References: 39]

Cohen, S. P., et al. "The intravenous ketamine test: a predictive response tool for oral dextromethorphan treatment in neuropathic pain." *Anesthesia & Analgesia* 99, no. 6(1753): 1753-9 UI 15562066.

IV infusion tests performed to predict subsequent response to oral analgesics are an increasingly popular method used to enhance medical care and conserve resources. Because no infusion test is completely accurate, the potential benefits of these tests must be weighed against the frustration and waste in resources encountered with false-positive results, and the failure to use a potentially beneficial treatment with false-negative results. In recent years, drugs that act antagonistically at N-methyl-d-aspartate receptors have been shown to be valuable adjuncts in the treatment of pain. To determine the predictive value of small-dose (0.1 mg/kg) IV ketamine on an oral dextromethorphan (DX) treatment regimen, we analyzed the analgesic response to these drugs in 25 patients at 2 tertiary care military treatment facilities, institutions at which DX is not readily accessible. When >/=50% response for both drugs was used as the outcome measure for success, the positive predictive value of the ketamine test was 64%, the negative predictive value 73%, and the observed agreement 68%. However, when >/=67% relief with ketamine was used as an outcome measure (as determined by a receiver operating characteristic curve), the positive predictive value was 90%, the negative predictive value 80%, and the observed agreement increased to 84%. Based on these results, we conclude that an IV ketamine test may be useful in predicting response to oral DX. More research is needed to determine the ideal candidates for such a test, and the optimal dose and cutoff value for the response to ketamine.

Costamagna, G., and M. Mutignani. "Pancreatic stenting for malignant ductal obstruction." *Digestive & Liver Disease* 36, no. 9(2004): 635-8 UI 15460850.

Pain is a major issue of palliative treatment in many patients with advanced pancreatic cancer. 'Obstructive'-type pain identified by correlation with meals, back radiation and dilation of main pancreatic duct upstream the stricture may be treated by endoscopic stent placement into the pancreatic duct in order to by-pass the stricture. The clinical experience reported in the literature shows that pancreatic plastic stenting for 'obstructive' pain may provide complete relief of pain in about 60% of patients and partial relief in 25%. [References: 18]

Dahl, J. B., O. Mathiesen, and S. Moiniche. "'Protective premedication': an option with gabapentin and related drugs? A review of gabapentin and pregabalin in in the

treatment of post-operative pain." *Acta Anaesthesiologica Scandinavica* 48, no. 9(1130): 1130-6 UI 15352959.

Substantial progress has been made during the last decades in our understanding of acute pain mechanisms, and this knowledge has encouraged the search for novel treatments. Of particular interest has been the observation that tissue injury initiates a number of modulations of both the peripheral and the central pain pathways, which convert the system from a 'physiological' to a 'pathological' mode of processing afferent information. Gabapentin, which binds to the alpha(2)delta subunit of the voltage-dependent calcium channel, is active in animal models of 'pathological' but not in models of 'physiological' pain. Consequently, attention has so far been focused on neuropathic pain as a target for the clinical use of gabapentin and analogues. Recently, several reports have indicated that gabapentin may have a place in the treatment of post-operative pain. This article presents a brief summary of the potential mechanisms of post-operative pain, and a systematic review of the available data of gabapentin and pregabalin for post-operative analgesia. It is concluded that the results with gabapentin and pregabalin in post-operative pain treatment published so far are promising. It is suggested that future studies should explore the effects of 'protective premedication' with combinations of various antihyperanalgesic and analgesic drugs for post-operative analgesia. [References: 44]

de Leon-Casasola, O. A. "Interventional procedures for cancer pain management: when are they indicated?" *Cancer Investigation* 22, no. 4(2004): 630-42 UI 15565820.

Non-invasive pharmacological management of patients with cancer related pain has resulted in pain control in 90-95% of the patients. Thus, 5-10% of patients still experience inadequate pain control despite aggressive combined pharmacological therapy. Moreover, patients may not tolerate an aggressive program of titration of medications and fail this approach because of side effects. In these patients interventional techniques have been very useful. This article discusses the alternative therapies, as well as the pitfalls in implementing these therapies, to achieve the highest possible success while minimizing potential complications and side effects. [References: 64]

De Lorenzo, R. A. "Emergency medicine research on the front lines.[comment]." *Annals of Emergency Medicine* 44, no. 2(2004): 128-30 UI 15278084.

Dicuio, M., et al. "30-MINUTES-TUMT. Use of the visual analogue scale to investigate patients' pain perception, different cocktail options and tolerability during 30 minutes' treatment." *Urologia Internationalis* 73, no. 2(2004): 130-6 UI 15331897.

INTRODUCTION: Primary objective: to investigate if 30-MINUTES-TUMT can be performed under topical anesthesia and analgesics. Secondary objectives: to evaluate retrospectively analgesics and to study parameters connected with pain. MATERIALS AND METHODS: Eighty-nine patients underwent TUMT. Patients were divided into four groups with different medications. Paracetamol and tolterodin-L-tartrate were administered in all groups. The first group was also given hydromorphone hydrochloride and atropine sulphate, the second group dextropropoxyphene, the third group morphine and diclofenac, and the fourth group morphine and dextropropoxyphene. Pain during TUMT was registered using the VAS scale. RESULTS: Pain during TUMT was (VAS in mm), respectively, total-first-second-third-fourth group: at 5 min -30, 31, 12, 28, 35; at 15 min -30, 23, 16, 25, 34; at 25 min -30, 28, 18, 25, 35. All patients accepted the treatment. No significant difference between the different drug schedules was noticed. CONCLUSIONS: It is possible to treat patients with 30-MINUTES-TUMT with local anesthesia and analgesics. The pain can be accepted by all patients.

Dowson, A. J., et al. "Identifying patients who require a change in their current acute migraine treatment: the Migraine Assessment of Current Therapy (Migraine-ACT) questionnaire." *Current Medical Research & Opinion* 20, no. 7(1125): 1125-35 UI 15265257.

BACKGROUND: Currently available measures of the efficacy of acute migraine medications are not frequently used in primary care. They may be too burdensome and complicated for routine use. OBJECTIVES: To design and test a new, easy to use, 4-item assessment tool, the Migraine Assessment of Current Therapy (Migraine-ACT) questionnaire for use by clinicians, to quickly evaluate how a recently prescribed acute medication is working, and to identify patients who require a change of their current acute treatment. METHODS: A 27-item Migraine-ACT questionnaire was developed by an international advisory board of headache specialists. Questions were formulated in four domains: headache impact, global assessment of relief, consistency of response and emotional response. All these are clinically important measures of migraine severity and treatment outcome. All questions were dichotomous and answered by yes or no. Patients (n = 185) attending secondary care headache clinics who were diagnosed with migraine according to International Headache Society criteria entered a multinational, prospective, observational study to investigate the test-retest reliability and construct validity of the 27-item Migraine-ACT. Patients completed the Migraine-ACT on two occasions, separated by a 1-week interval, and test-retest reliability was assessed by Pearson product moment and Spearman rank measures. Construct validity was assessed by correlating patients' answers to the 27-item Migraine-ACT with those to other questionnaires (individual domains and total scores) conceptually related to it; the Short-Form 36 quality of life questionnaire (SF-36), the Migraine Disability Assessment (MIDAS) questionnaire and the Migraine Therapy Assessment Questionnaire (MTAQ). Discriminatory t-tests were used to identify the four Migraine-ACT questions (one in each domain) which discriminated best between the domains of the SF36, MIDAS, and MTAQ. These four items constituted the final 4-item Migraine-ACT. RESULTS: The test-retest reliability of the 27 Migraine-ACT questions ranged from good to excellent, and correlation coefficients were highly significant for all items. The consistency of reporting the yes and no answers was also excellent. Correlations of Migraine-ACT items with SF-36 and MIDAS items and SF-36, MIDAS and MTAQ total scores indicated that the following were the most discriminating items, in the respective four domains, and constitute the final Migraine-ACT questionnaire: Consistency of response: Does your migraine medication work consistently, in the majority of your attacks? Global assessment of relief: Does the headache pain disappear within 2 h? Impact: Are you able to function normally within 2 h? Emotional response: Are you comfortable enough with your medication to be able to plan your daily activities? The 4-item Migraine-ACT was shown to be highly reliable (Spearman/Pearson measure r = 0.82). The individual questions, and the total 4-item Migraine-ACT score, showed good correlation with items of the SF-36, MIDAS and MTAQ questionnaires, particularly with the total MTAQ and SF-36 scores. CONCLUSIONS: The 4-item Migraine-ACT questionnaire is an assessment tool for use by primary care physicians to identify patients who require a change in their current acute migraine treatment. It is brief and simple to complete and score, and has demonstrated reliability, accuracy and simplicity. Migraine-ACT can therefore be recommended for everyday clinical use by clinicians.

Dreyer, M., et al. "Multiple painful sensory mononeuropathies (MPSM), a novel pattern of sarcoid neuropathy." *Journal of Neurology, Neurosurgery & Psychiatry* 75, no. 11(1645): 1645-6 UI 15489408.

DuPont, J. S., Jr. "Clinical use of iontophoresis to treat facial pain." *Cranio* 22, no. 4(2004): 297-303 UI 15532314.

Iontophoresis is a modality that assists with the entry of certain therapeutic medications into injured sites. Medications, such as anesthetics, vasoconstrictors, and some corticosteroids, when dissolved in water, separate into positive and negative ions. When an electric current is passed through an ionized solution, the ions of these agents carry the electric current from the positive to the negative electrode. The above medications have been shown to be beneficial in the treatment of TMD. These agents in liquid form are placed in meditrode pads that are attached to skin or mucosal surface over the sites that are to be treated. The treating (active) meditrodes and a larger ground (dispersive or return) meditrode are attached to an iontophoretic unit by wire leads to form a closed circuit. With iontophoresis, the treating medications can be placed in the target areas in high concentrations. [References: 27]

Dursun, M., et al. "An unusual presentation of primary amyloidosis." *Saudi Medical Journal* 25, no. 10(1478): 1478-81 UI 15494827.

A 65-year-old male patient presented with right upper-quadrant abdominal pain. Ultrasonography revealed hypoechoic lesion in the perihepatic and intraparenchymal area. Computed tomography (CT) showed hypodense lesion in the same localization. A fine needle biopsy specimen of the perihepatic lesion was hemorrhagic. On abdominal CT, the liver showed enhancement, but the spleen did not enhance. The spleen could not be detected by scintigraphic imaging using Tc99m sulfur dioxide. A diagnosis of primary amyloidosis was made by renal biopsy. Melphalan 10 mg/day for 4 days/month was started. The clinical and radiological follow up demonstrated a resorption of the hematoma. The patient is still alive at the eighth month of therapy.

Ebell, M. H. "NSAIDs vs. opiates for pain in acute renal colic." *American Family Physician* 70, no. 9(1682): 1 UI 15554485.

Edrington, J. M., et al. "No evidence for sex differences in the severity and treatment of cancer pain." *Journal of Pain & Symptom Management* 28, no. 3(2004): 225-32 UI 15336334.

While chronic pain is experienced by approximately 50-90% of patients with metastatic cancer, little is known about sex differences in chronic cancer pain. Therefore, the purposes of this study, in a sample of oncology outpatients (n=187) who were experiencing pain from bone metastasis, were: 1) to determine if there were sex differences in various pain characteristics, including pain intensity, and 2) to determine if there were sex differences in the prescription and consumption of analgesic medications. No significant sex differences were found in any of the baseline pain characteristics. In addition, no significant sex differences were found in analgesic prescriptions or intake of analgesic medications. Of note, men reported significantly higher pain interference scores for sexual activity than women. The study findings are important because they suggest that, unlike in acute pain, sex may not influence patients' perceptions of and responses to chronic cancer pain.

Ernst, E. "European recommendations for musculoskeletal pain.[comment]." *Annals of the Rheumatic Diseases* 63, no. 12(1709) UI 15547109.

Ervilha, U. F., et al. "Effect of load level and muscle pain intensity on the motor control of elbow-flexion movements." *European Journal of Applied Physiology* 92, no. 1-2(2004): 168-75 UI 15045506.

This study assessed interactions between mild/moderate muscle pain and inertial load on the control of human elbow-flexion movements. It is hypothesized that high inertial load combined with moderate muscle pain intensity affect the motor control more than for low inertial-load combined with low-intensity pain. Fifteen subjects performed horizontal pointing movements (70 degree range) under three load conditions: 0, 4, and 10 kg. Pain was induced by injection of 0.5 ml and 1.5 ml

hypertonic saline into the biceps muscle. Subjects scored the muscle pain intensity on a visual analogue scale (VAS). Elbow joint position, VAS, and the electromyograms (EMG, m. biceps brachii, m. triceps brachii, m. brachioradialis, and m. trapezius) were recorded. Mild and moderate muscle pain attenuated acceleration profiles [6.1(0.9)%], effective movement amplitude [3.2 (0.7)%], peak velocity [5.8 (0.9)%] and prolonged the reaction time [21 (5)%]. No interaction between muscle pain intensity and inertial load was found for the kinematic parameters. EMG profiles from m. biceps brachii, m. triceps brachii, and m. brachioradialis were similarly attenuated [10.2 (0.80)%] by mild and moderate muscle pain in all inertial load conditions. For high inertial load, the initial agonist EMG burst activity was more attenuated [50 (5.3)%] by moderate muscle pain compared with mild muscle pain [34 (4.2)%]. These data suggest that for high effort-demanding tasks muscle pain differently affects the motor planning according to the pain-intensity level. Perturbations of motor planning lead to changes on movement strategies, which might be a potential cause of musculoskeletal problems.

Ettlin, T. "Trigger point injection treatment with the 5-HT3 receptor antagonist tropisetron in patients with late whiplash-associated disorder. First results of a multiple case study." *Scandinavian Journal of Rheumatology Supplement* 119(2004): 49-50 UI 15515414.

Preliminary results of an ongoing study on the effectiveness of trigger point injections with tropisetron in 20 patients with late whiplash-associated disorder are presented. The study demonstrated more than 50% pain relief for more than 2 weeks in 52% of the 73 treatment sessions. The duration of effectiveness of the injections showed great intraindividual and interindividual variation.

Evans, A. "Nursing Standard Nurse 2004 Awards. Breathe easy. Interview by Steven Black." *Nursing Standard* 19, no. 8(2004): 3-9 UI 15552478.

Evans, R. W., and N. M. Ramadan. "Are cannabis-based chemicals helpful in headache?" *Headache* 44, no. 7(2004): 726-7 UI 15209699.

Ferguson, R. J., et al. "Psychometric update of the Functional Interference Estimate: a brief measure of pain functional interference." *Journal of Pain & Symptom Management* 28, no. 4(2004): 389-95 UI 15471657.

The Functional Interference Estimate (FIE) is a brief, 5-item self-report measure that assesses the degree to which pain interferes with daily functioning. While the FIE has demonstrated reliability and validity with a small normative sample, not much is known about its reliability and validity with a broad sample of individuals with pain. The current study presents FIE score means, variability estimates, reliability and validity data based on a large sample (n = 1,337) of primary care patients who report problematic pain. The FIE has excellent internal consistency and appears to have strong convergent validity with other well-established measures of function (e.g., SF-36 and Dartmouth COOP Charts). Because of its brevity and flexibility, the FIE may be a useful self-report measure of pain functional interference in clinical research on pain.

Fillingim, R. B., and R. W. Gear. "Sex differences in opioid analgesia: clinical and experimental findings." *European Journal of Pain: Ejp* 8, no. 5(2004): 413-25 UI 15324773.

Sex differences in analgesic responses to opioids have received increasing attention in recent years. This article examines the literature on sex differences in opioid analgesia, including the results of studies from the authors' own laboratories. In general, nonhuman animal studies suggest more robust opioid analgesic responses in males relative to females; however, the human studies completed to date seem to indicate greater opioid analgesia among females. The most consistent

evidence of sex differences in analgesia comes from studies of kappa-agonist-antagonists administered to patients following oral surgery. These data indicate more robust analgesia in females, and dose-response characteristics suggest that these agents possess both analgesic and antianalgesic properties, and the agonists may produce these effects in different proportions for women versus men. In contrast, the data from laboratory pain models in humans suggest greater analgesic effects in women in response mu-opioid agonists but not kappa-agonist-antagonists. Multiple mechanisms may explain sex differences in opioid analgesia, including gonadal hormonal effects, pharmacokinetics and pharmacodynamics, genetic influences, balance of analgesic/antianalgesic processes, and psychological factors. However, the disparity of results obtained from different pain models--animals versus humans and clinical pain versus experimental pain in humans--suggests that the models themselves are mechanistically different. Additional investigation is warranted in order to further explicate the nature of sex differences in opioid analgesia and to elucidate the underlying mechanisms. [References: 100]

Fishman, S. M., et al. "The case for pain medicine." *Pain Medicine* 5, no. 3(2004): 281-6 UI 15367306.

Pain Medicine has its roots in multiple primary specialties and has developed into a discrete specialty with disparate practice styles. Its identity is in flux and is threatened by forces that may fragment this new field before it can set firm roots. The public health crisis of under treated pain parallels medicine's struggle to adequately classify Pain Medicine as a specialty. We review the case for Pain Medicine as a discrete discipline, with specialized knowledge, treatments, training and education. Without recognition of the specialty of Pain Medicine, and resolution of the fragmentation of the field throughout healthcare, medicine's approach to the current problem of under treated pain is likely to continue to be inadequate.

Fishman, S. M., et al. "Regulating opioid prescribing through prescription monitoring programs: balancing drug diversion and treatment of pain." *Pain Medicine* 5, no. 3(2004): 309-24 UI 15367312.

Social policies have evolved to address the associated concerns related to the public health crises of drug abuse and undertreated pain. Prescription monitoring programs (PMPs) have been used for many years in this effort but are undergoing re-evaluation and restructuring in light of changes in technology as well as changes in our understanding of the collateral impact of such programs. We reviewed the state of PMPs in the United States and highlighted recent changes in these programs that have occurred nationally. The current changes occurring in California, with the most physicians of any U.S. state as well as the oldest triplicate-based serialized prescription program, are reviewed, with focus on the transition to tamper-resistant prescriptions that use security paper forms. Future trends for PMPs are described, including the potential for widespread use of electronic prescribing, which is gaining favor with the Drug Enforcement Agency.

Foley, D. C., and H. McCutcheon. "Detecting pain in people with an intellectual disability." *Accident & Emergency Nursing* 12, no. 4(2004): 196-200 UI 15474343.

The assessment of pain in a person with an intellectual disability (ID) is often a difficult undertaking complicated by idiosyncratic reactions or vague descriptions. The person with an ID may also be unable to verbally communicate their discomfort. For the carer who knows the individual with an ID, knowing how they respond to painful stimuli assists the carer to detect new instances of pain. The emergency nurse is unlikely to have met the person with an ID and therefore detecting pain by observing behaviour or using self-report measures is unlikely to succeed. There have been some attempts to categorize behavioural responses to pain by people with an ID, however, they have not been developed into a useful assessment tool.

Emergency nurses must therefore rely on the person who knows the person with an ID. [References: 15]

Forster, J. G., and P. H. Rosenberg. "Small dose of clonidine mixed with low-dose ropivacaine and fentanyl for epidural analgesia after total knee arthroplasty." *British Journal of Anaesthesia* 93, no. 5(2004): 670-7 UI 15377579.

BACKGROUND: We studied whether a small dose of clonidine added to a ropivacaine-fentanyl mixture improves epidural analgesia without provoking side effects typically related to larger amounts of epidural clonidine. METHODS: In this randomized, double-blinded study, patients (< or =85 yr, ASA I-III) underwent total knee arthroplasty (TKA) performed under spinal anaesthesia. After the operation, patients received an epidural infusion consisting of ropivacaine 2 mg ml(-1) and fentanyl 5 microg ml(-1) either without (Group RF, n=33) or with clonidine 2 microg ml(-1) (Group RFC, n=36). The infusion rate was adjusted within the range 3-7 ml h(-1). RESULTS: Average rate of infusion was slightly smaller in Group RFC than in Group RF (mean (sd) 4.7 (0.72) vs 5.2 (0.8) ml h(-1), P=0.004). Compared with the RF group, patients in the RFC group required significantly less rescue pain medication, that is i.m. oxycodone (median (25th, 75th percentile) 0 (0, 7) vs 7 (0, 12) mg, P=0.027). Arterial pressure and heart rate were slightly lower in Group RFC throughout the study period (mean difference between the groups 5 mm Hg (P<0.002) and 3 min(-1) (P=0.12), respectively). The groups did not differ statistically with respect to nausea, motor block, and sedation. CONCLUSIONS: The small amount of clonidine added to the low-dose ropivacaine-fentanyl mixture reduced the need for opioid rescue pain medication after TKA. Clonidine slightly decreased arterial pressure and heart rate without jeopardizing haemodynamics. Otherwise, the side effect profiles were comparable in both groups.

Fraifield, E., and P. Lippe. "The specialty of pain medicine-a welcome change in taxonomy." *Pain Medicine* 5, no. 3(2004) UI 15367299.

Friedman, B. W. "Treatment of primary headache in the emergency department.[comment]." *Headache* 44, no. 7(2004): 728-30 UI 15209701.

Gallagher, R. "Opioids in chronic pain management: Navigating the clinical and regulatory challenges." *Journal of Family Practice* 53, no. 10 Suppl(2004) UI 15469762.

Gallagher, R. M. "Biopsychosocial pain medicine and mind-brain-body science." *Physical Medicine & Rehabilitation Clinics of North America* 15, no. 4(2004): 855-82 UI 15458757.

This article reviews how emotions, behavior, and psychiatric comorbidity influence the course and outcome of chronic pain disorders and addresses methods of identifying and managing these problems in clinical practice. Successful medical rehabilitation for patients with chronic pain requires (1) appreciating the effects of biopsychosocial factors in the onset, course, and outcomes of pain disorders; (2) understanding neurobiologic mechanisms linking mind, brain, and body in the functions of pain perception and modulation; and (3) being able to review critically and use selectively the plethora of new medications and interventional technologies that are proposed in the literature. Deficits in these skills now are recognized as hazardous to the public health so that medical school education and post residency training in pain medicine is now mandatory in some states. [References: 86]

Gallagher, R. M. "Epidural and intrathecal cancer pain management: prescriptive care for quality of life.[comment]." *Pain Medicine* 5, no. 3(2004) UI 15367298.

Gloss, D., P. Rosel, and H. Neitzschman. "Radiology case of the month. New onset headache." *Journal of the Louisiana State Medical Society* 156, no. 4(2004): 175-6 UI 15366343.

Goguen, E. R., and C. W. Roberts. "Topical NSAIDS to control pain in clear corneal cataract extraction." *Insight* 29, no. 3(2004): 10-1 UI 15552197.

This study was conducted to assess the additive efficacy of ophthalmic topical nonsteroidal anti-inflammatory drugs (NSAIDs) with topical anesthesia in the control of pain associated with clear corneal cataract extraction. The patients who received three days of preoperative topical NSAIDs had a statistically significant decrease in their level of discomfort. We have previously shown that three days of preoperative NSAIDs can reduce postoperative inflammation after cataract surgery. This study demonstrates that ophthalmic topical NSAIDs also decrease discomfort during surgery.

Gottschalk, A., and S. N. Raja. "Severing the link between acute and chronic pain: the anesthesiologist's role in preventive medicine.[comment]." *Anesthesiology* 101, no. 5(1063): 1063-5 UI 15505440.

Gray, E. "The management of pain in multiple sclerosis: a care-study approach." *British Journal of Nursing* 13, no. 17(1017): 1017-20 UI 15549011.

Pain is a commonly reported symptom of multiple sclerosis (MS). However, the literature surrounding pain management for people with MS appears limited. This article describes how pain was managed for one patient. It suggests that the MS nurse is pivotal in ensuring that patients receive adequate pain control. The MS nurse can coordinate timely assessment, monitor effectiveness and side effects linked with a pain management plan, and provide education and support to patients in order to allow them to take responsibility for their own pain management. [References: 7]

Gupta, T., and R. Sarin. "Palliative radiation therapy for painful vertebral metastases: a practice survey." *Cancer* 101, no. 12(2004): 2892-6 UI 15534882.

Habib, P. A., et al. "Anterior chest pain: musculoskeletal considerations." *Emergency Radiology* 11, no. 1(2004): 37-45 UI 15309664.

The clinical symptom of anterior chest pain generally elicits a long list of diagnoses. When cardiac and pleural conditions are excluded, conditions that affect the musculoskeletal system become important considerations. Many of these conditions have characteristic imaging features that allow accurate diagnosis. In others, the imaging findings can be instrumental in directing the appropriate course of action. This article reviews the imaging features of a number of musculoskeletal entities that present with anterior chest pain including traumatic, rheumatologic, inflammatory, infectious, and neoplastic conditions. Copyright 2004 ASER [References: 40]

Hansson, T. L. "RDC/TMD criteria.[comment]." *Journal of Orofacial Pain* 18, no. 3(2004) UI 15508996.

Hatch, R. L. "Pain relief in those recovering from chemical dependency.[comment]." *American Family Physician* 70, no. 10(1862): 15 UI 15571054.

Hazari, A., and D. Elliot. "Treatment of end-neuromas, neuromas-in-continuity and scarred nerves of the digits by proximal relocation." *Journal of Hand Surgery British* 29, no. 4(2004): 338-50 UI 15234497.

This paper reports the results of treatment by proximal relocation of 104 painful nerves in 57 digits in 48 patients. These included 86 digital nerves and 18 terminal

branches of the superficial radial nerve and the dorsal branch of the ulnar nerve. Eighty-three were end-neuromas and 14 were neuromas-in-continuity, of which nine followed nerve repair and five occurred following a closed crush injury. Seven were painful as a result of tethering in scarred tissue. Eighty nerves (77%) required a single relocation and 24 (23%) required more than one operation. Ninety-eight per cent of nerve relocations achieved complete pain relief at the primary site. One patient had mild pain on pressure at the primary site after relocation of two nerves from this site. Over 90% of the nerves had no spontaneous pain, pain on movement or hypersensitivity of the overlying skin at the final site of relocation. However, the incidence of mild or no pain on direct pressure at the site of nerve relocation was lower at 83% as relocated nerves, although traumatized less often at the sites chosen for relocation, can still be painful on direct pressure.

Helmhout, P. H., et al. "Comparison of a high-intensity and a low-intensity lumbar extensor training program as minimal intervention treatment in low back pain: a randomized trial." *European Spine Journal* 13, no. 6(2004): 537-47 UI 15095072.

In a randomized, observer-blinded trial, the effectiveness of 3-month high-intensity training (HIT) of the isolated lumbar extensors was compared to low-intensity training (LIT). Eighty-one workers with nonspecific low back pain longer than 12 weeks were randomly assigned to either of the two training programs.Training sessions were performed on a modified training device that isolated the lower back extensors. Total intervention time was limited to 5-10 min (one or two training sessions) per week. Training effects were assessed in terms of changes in self-rated degree of back complaints, functional disability, and general, physical and mental health. Secondary outcomes in this study were muscle strength and fear of moving the back (kinesiophobia). Outcomes were evaluated at 1,2, 3, 6, and 9 months after randomization.The results showed that the two treatment programs led to comparable improvements in all outcome measures, except for mean isometric strength at 1, 2, 3, 6, and 9 months and kinesiophobia score at 2 and 9 months of follow-up. The high-intensity training group showed a higher strength gain (24 to 48 Nm) but a smaller decline in kinesiophobia (2.5 and 3.4 points, respectively), compared to the low-intensity training group.It can be concluded that high-intensity training of the isolated back extensors was not superior to a non-progressive, low-intensity variant in restoring back function in nonspecific (chronic) low back pain. In further research, emphasis should be put on identifying subgroups of patients that will have the highest success rate with either of these training approaches.

Hepaguslar, H., et al. "Propofol and sevoflurane during epidural/general anesthesia: comparison of early recovery characteristics and pain relief." *Middle East Journal of Anesthesiology* 17, no. 5(2004): 819-32 UI 15449742.

We investigated the early recovery characteristics and pain relief of adult patients during combined anesthesia with (epidural and general), either with propofol or sevoflurane for maintenance in major abdominal surgery. Twenty-two patients (ASA I-III) were enrolled in this randomized, prospective study. After fluid preloading, 10 ml of bupivacaine 0.5% + 5 ml of prilocaine 0.5% + 1 ml of fentanyl 50 microg mL(-1) were administered via an epidural catheter. General anesthesia was induced with fentanyl and propofol after T6 sensorial blockade. Propofol group (n = 11) received propofol (2-5 mg kg(-1) h(-1)), sevoflurane group (n = 11) received sevoflurane (1-2%) for maintenance. Anesthesia was supplemented with N2O in O2 and intravenous fentanyl. Continuous epidural infusion of 0.125% bupivacaine + 1 microg fentanyl (5-7 mL h(-1)) was started forty-five min after the epidural bolus dose and 5 ml of it was given at the start of the wound closure. All anesthetics were discontinued except epidural infusion during the last suture. After emergence time was determined, the patients were transferred to the PACU. They were observed for orientation times of person and place. The pain scores (verbal analogue scale, 0-10) were assessed with

30 min intervals. When the patient's pain score was >3, rescue analgesic protocol (diclofenac Na 75 mg im followed by meperidine HCl approximately 0.25 mg kg(-1) iv at the latter period) was applied. In the case of inadequate pain relief during the latter assessment periods, meperidine HCl approximately 0.25 mg kg(-1) was administered. Mann-Whitney U test and Fisher's exact test were used for the statistical analysis. A value of $p<0.05$ was considered significant. Between the groups no statistical differences were observed in the emergence time (5 vs. 6 min, median) and in the orientation time to person (6 vs. 10 min). Recovery of orientation to place was found faster in propofol group (7 vs. 12 min, $p = 0.041$). Pain scores of the patients between the groups were not statistically different at 0, 30, 60, 90, 120 min postoperatively (3, 2, 3, 2, 2, and 2, 4, 4, 3, 3, respectively). Rescue analgesic protocol and additional meperidine HCl were applied to 63.6% and 45.4% of patients in the propofol group, 54.5% and 36.3% of patients in the sevoflurane group, respectively. There weren't any statistical differences in regard to these, either. Except orientation time to place, the times of emergence and orientation to person, the pain scores and the analgesic requirements of the patients in both groups were similar. Propofol or sevoflurane did not offer any advantages for postoperative pain relief on behalf of either one when combined with epidural anesthesia.

Hoffmann, W., et al. "A population-based evaluation of an intervention to improve advanced stage cancer pain management." *Journal of Pain & Symptom Management* 28, no. 4(2004): 342-50 UI 15471651.

The purpose of this study was to evaluate the effect of a community-oriented intervention in one part of the Free Town of Bremen, northern Germany (population 541,000) on the prescription prevalence of World Health Organization (WHO) class III opioids for cancer patients in their final year of life. A community-oriented, multimodal intervention included information, teaching, and training modules tailored to physicians, pharmacists, nursing staff, and patients and their relatives, and the public. Prescription prevalences were calculated for the intervention region (Bremen-Nord) and a control region (Bremen-Mitte) before and after the intervention. Specifically, a population-based, controlled, quantitative assessment of opioid prescriptions for patients with cancer during their final year of life was undertaken for two time periods, prior to 1992-1993 and after 1995-1996, respectively. Prescription ascertainment was based on duplicates kept in the pharmacies. Patients comprised two anonymized complete 4-month samples who died in 1993 and 1996, respectively, with cancer as the primary or a contributory cause of death on their death certificates. A total of 1282 prescriptions were abstracted from duplicates in 109 of 119 pharmacies in Bremen-Mitte and all 31 pharmacies in Bremen-Nord (overall pharmacy participation proportion 93%) and individually matched to 856 patients with cancer in their final year of life. In 1993, 16.3% of all terminal cancer patients in Bremen-Mitte and 19.1% in Bremen-Nord had received at least one prescription for a WHO class III opioid. Corresponding numbers after the intervention were 20% and 21%, respectively. The total amount of class III opioids, however, increased 20% in Bremen-Mitte and 210% in Bremen-Nord after the intervention. In 1996, the spectrum of prescribed opioids had changed markedly toward the WHO recommendations. The proportion of prescribing physicians remained constant. These data suggest that a community-oriented intervention in one part of Bremen had a limited impact on cancer pain therapy on the population level. A measurable change of prescription practice seemed to be restricted to the minority of physicians, who had prior experience with prescribing WHO class III opioids.

Holtzman, S., S. Newth, and A. Delongis. "The role of social support in coping with daily pain among patients with rheumatoid arthritis." *Journal of Health Psychology* 9, no. 5(2004): 677-95 UI 15310421.

Using a daily process methodology, the current study examined the role of social support in coping and pain severity among patients with rheumatoid arthritis (RA).

Seventy-three adults with RA completed a structured record twice daily for one week on pain severity, pain coping, satisfaction with support and disappointment in support. Findings suggested that support influenced pain indirectly, by encouraging the use of specific coping strategies, as well as impacting coping effectiveness. Satisfaction with support was associated with adaptive and maladaptive coping, while disappointment was associated with maladaptive coping. Findings highlight the importance of close others in promoting adaptive coping strategies. Copyright 2004 SAGE Publications

Horowitz, J. D. "Tolerance induction during therapy with long-acting nitrates: how extensive is the "collateral damage"?[comment]." *Cardiovascular Drugs & Therapy* 18, no. 1(2004): 11-12 UI 15228054.

Horowitz, M., et al. "Trigeminal neuralgia and glossopharyngeal neuralgia: two orofacial pain syndromes encountered by dentists." *Journal of the American Dental Association* 135, no. 10(1427): 1427-33 UI 15551983.

BACKGROUND: Dentists frequently evaluate patients for oropharyngeal pain that may or may not eventually be related to oral pathology. Two rare neurological disorders that present with severe orofacial pain are trigeminal neuralgia, or TN, and glossopharyngeal neuralgia, or GPN. Both are secondary to cranial nerve compression by arteries and veins at the point at which the nerves exit the pons and brainstem. RESULTS: The authors present the results for two series of patients treated for TN and GPN. Significant success can be seen after intracranial microvascular decompression for both disorders, with low complication rates. Short- and long-term outcomes depend on proper patient selection. CLINICAL IMPLICATIONS: It is important for practitioners to recognize these syndromes and properly refer patients to a neurosurgeon experienced in treating such disorders. This can help the dentist and patient avoid oral procedures that will not alleviate the painful symptoms.

Hoskin, P. J. "The RIB trial." *Clinical Oncology* 16, no. 7(2004): 445-6 UI 15490803.

Hughes, E. "Principles of post-operative patient care." *Nursing Standard* 19, no. 5(2004): 43-51 UI 15524255.

Surgery causes physiological stress on the body and carries inherent risks such as shock and haemorrhage. This article discusses cardiogenic and hypovolaemic shock and outlines the principles of safe and effective post-operative care, including recognising hypovolaemia, maintaining fluid balance and administering pain control. [References: 68]

Huntoon, M. A., et al. "Intrinsic spinal cord catheter placement: implications of new intractable pain in a patient with a spinal cord injury." *Anesthesia & Analgesia* 99, no. 6(1763): 1763-5 UI 15562068.

We present a case of new intractable flank pain after intrathecal infusion system placement in a 45-yr-old man with a history of a T12 spinal cord injury with dysesthetic leg pain. Pain after intrathecal infusion system placement was evaluated by magnetic resonance imaging and the catheter was found to be intraparenchymal. The patient was treated by cessation of infusion and surgical removal of the system. Before surgical removal, the pump was turned off and the patient's flank pain resolved. Increased vigilance is warranted when caring for paraplegic patients. When new pain persists, intrathecal medication tapering should be considered.

Johnson, L. "The nursing role in recognizing and assessing neuropathic pain." *British Journal of Nursing* 13, no. 18(1092): 1092-7 UI 15564996.

Neuropathic pain is suffered by approximately 1% of the UK population and poses a vast socio-economic problem through unemployment and expenditure on medical and social services. It also presents a major therapeutic challenge to healthcare professionals, since it can be difficult to recognize and to treat. With the advent of new and effective medications, the prognosis for patients can be significantly improved by early recognition and aggressive therapy. This article aims to equip nurses with the assessment skills to identify neuropathic pain and a basis from which to expedite pain relief through appropriate intervention and referral within the multidisciplinary team. [References: 62]

Kalina, P., P. Craigo, and T. Weingarten. "Intrathecal injection of epidural blood patch: a case report and review of the literature." *Emergency Radiology* 11, no. 1(2004): 56-9 UI 15278703.

Epidural blood patch (EBP) is a commonly performed procedure for the treatment of persistent severe post- dural-puncture headache (PDPH). It has a high success rate with a low incidence of complications. We report the case of a 27-year-old woman who developed progressive back pain and radicular symptoms after an EBP was performed for PDPH. An emergency MRI showed a subarachnoid hematoma. Gradual recovery occurred without the need for intervention. To our knowledge, this is the only case demonstrating the MRI findings of a rare complication of a common procedure. Radiologists may benefit from familiarity with epidural blood patching, including the technique, risks, benefits, and potential complications Copyright 2004 ASER [References: 17]

Kerns, R. D., and S. Habib. "A critical review of the pain readiness to change model." *Journal of Pain* 5, no. 7(2004): 357-67 UI 15501193.

Current approaches to treating chronic pain often incorporate a multidisciplinary approach and a focus on self-management. Although many of the patients who complete this type of treatment exhibit gains, there remain a significant proportion of patients who fail to engage in or complete this type of approach or who fail to adhere to treatment recommendations. In an attempt to address these issues, the construct of readiness (or motivation) to adopt a self-management approach to chronic pain has been described and has attracted research interest in recent years. Operationalization of the construct has led to the development of the Pain Stages of Change Questionnaire and other strategies for its assessment. Considerable discussion, debate, and ongoing research have expanded our understanding of motivation in the context of chronic pain treatment and have informed the articulation of potentially important ways in which self-management treatment approaches to chronic pain might be improved. The aim of this article is to review the work in this area and discuss implications for clinical practice and further research. PERSPECTIVE: This article reviews the research to date in the area of pain readiness to change. It provides readers with an overview of the current conceptualization of readiness and discusses important implications for multidisciplinary treatment interventions with a focus on self-management. [References: 45]

Kjoller-Hansen, L., R. Steffensen, and P. Grande. "Extended follow-up of patients randomly assigned in the Angiotensin-converting enzyme inhibition Post-Revascularization Study (APRES)." *American Heart Journal* 148, no. 3(2004): 475-80 UI 15389235.

BACKGROUND: We hypothesized that the benefit from ramipril on cardiac events and on left ventricular end-systolic volume (ESVI) in the Angiotensin-converting enzyme inhibition Post-revascularization Study (APRES) randomized controlled trial (RCT) was associated with long-term improvement. METHODS: For the 3.2 years after the end of the RCT, we obtained information from a national database regarding date and cause of death and hospitalization for the 159 enrolled patients.

RESULTS: Assignment to ramipril in the RCT resulted in a lower rate of cardiac death or hospitalization with heart failure up to the time of complete follow-up of all patients at 4.3 years (relative risk [RR], 0.28; P =.018) and up to 1.5 years after the end of the RCT (RR, 0.35; P =.042) but not up to the complete extended follow-up time at 6.9 years (RR, 0.65; P =.27). Independent predictors for risk of future cardiac death or hospitalization with heart failure were (a) left ventricular dilation (LVD) (RR, 2.84; P =.031), defined as an increase in ESVI greater than the reproducibility coefficient, and (b) composite event of acute myocardial infarction or development of heart failure or LVD (RR, 12.44; P <.001). Ramipril significantly reduced events (a) (P =.046) and (b) (P =.015) during the RCT. CONCLUSIONS: There is congruence between the beneficial effect of ramipril on LVD, acute myocardial infarction, or heart failure and the prognostic importance of these factors and on cardiac death and hospitalization with heart failure. This observation supports and reinforces conclusions from previous APRES reports that ramipril benefits non-high-risk patients after revascularization.

Koeppe, C., et al. "The influence of the 5-HT3 receptor antagonist tropisetron on pain in fibromyalgia: a functional magnetic resonance imaging pilot study." *Scandinavian Journal of Rheumatology Supplement* 119(2004): 24-7 UI 15515408.

OBJECTIVE: Central pain processing is altered in patients with fibromyalgia syndrome (FMS). The serotonin metabolism, especially the 5-HT3 receptor, seems to play an important role. METHODS: We investigated the effect of the local injection of the 5-HT3 receptor antagonist tropisetron on the perception and central processing of pain in FMS patients using painful mechanical stimulation and functional magnetic resonance imaging (fMRI) within the framework of a pre-/posttreatment double-blind design. RESULTS: In the contralateral primary somatosensory cortex, contralateral posterior insula, and anterior cingulate cortex, we found that the activation was significantly reduced after treatment. On average, patients rated the stimulation-induced pain intensity as stronger in the session after treatment compared to before treatment, although the individual data revealed a heterogeneous pattern. All patients showed sensitisation during the painful stimulation, which was not influenced by the treatment. CONCLUSIONS: Both the sensory-discriminative and motivational-affective components of pain as measured by fMRI were altered by tropisetron.

Kosmicki, M. A., H. Szwed, and Z. Sadowski. "Anti-ischaemic response to sublingual nitroglycerin during oral administration of isosorbide dinitrate in patients with stable angina pectoris: when does cross-tolerance occur?[see comment]." *Cardiovascular Drugs & Therapy* 18, no. 1(2004): 47-55 UI 15115903.

The purpose of this study was to evaluate the efficacy of sublingual nitroglycerin (NTG) during treatment with oral sustained-release isosorbide dinitrate (ISDN) in two doses: 80 mg and 120 mg. In a double-blind crossover design study 38 men with stable angina initially received either an oral placebo (OP) or ISDN. All patients received either NTG 0.5 mg or sublingual placebo (SLP) 2.5 h after OP ingestion, but only NTG 2.5 h after ISDN. The same pattern was used in the first ingestion and in long-term OP or ISDN therapy for 7 days (OP and ISDN every 6 h, and ISDN once daily). The efficacy of NTG was evaluated by analyzing walking time to ischaemia (WTI) during exercise tests performed 5 minutes after NTG or SLP administration, and the efficacy of ISDN 2 h and 6 h after oral ingestion. In the first ingestion NTG significantly improved WTI ($p < 0.0001$) by 42.7% after OP, by 46.5% after 80 mg ISDN and by 52.1% after 120 mg. After long-term OP therapy NTG prolonged WTI ($p < 0.01$) by 15.6%, during once-daily ISDN treatment, an 80 mg dose prolonged WTI by 22.8% and a dose of 120 mg by 36.5%. However, NTG did not improve WTI in q.i.d. therapy. Six hours after the first 80 mg ISDN ingestion WTI improved ($p < 0.0001$) by 66.0%, and after 120 mg by 58.4%. Following once-daily therapy ISDN prolonged WTI ($p < 0.0001$) by 27.2% after an 80 mg dose and by 36.2% after a

dose of 120 mg. No improvement was observed in q.i.d. treatment. Thus, severe tolerance to ISDN abolishes the anti-ischaemic effects of NTG, and appropriate regimens of ISDN have considerable anti-anginal effects during chronic administration.

Kotwal, R. S., et al. "A novel pain management strategy for combat casualty care.[see comment]." *Annals of Emergency Medicine* 44, no. 2(2004): 121-7 UI 15278083.

STUDY OBJECTIVE: Pain control in trauma patients should be an integral part of the continuum of care, beginning at the scene with out-of-hospital trauma management, sustained through the evacuation process, and optimized during hospitalization. This study evaluates the effectiveness of a novel application of a pain control medication, currently indicated for the management of chronic and breakthrough cancer pain, in the reduction of acute pain for wounded Special Operations soldiers in an austere combat environment. METHODS: Doses (1,600 microg) of oral transmucosal fentanyl citrate were administered by medical personnel during missions executed in support of Operation Iraqi Freedom from March 3, 2003, to May 3, 2003. Hemodynamically stable casualties presenting with isolated, uncomplicated orthopedic injuries or extremity wounds who would not have otherwise required an intravenous catheter were eligible for treatment and evaluation. Pretreatment, 15-minute posttreatment, and 5-hour posttreatment pain intensities were quantified by the verbal 0-to-10 numeric rating scale. RESULTS: A total of 22 patients, aged 21 to 37 years, met the study criterion. The mean difference in verbal pain scores (5.77; 95% confidence interval [CI] 5.18 to 6.37) was found to be statistically significant between the mean pain rating at 0 minutes and the rating at 15 minutes. However, the mean difference (0.39; 95% CI -0.18 to 0.96) was not statistically significant between 15 minutes and 5 hours, indicating the sustained action of the intervention without the need for redosing. One patient experienced an episode of hypoventilation that resolved readily with administration of naloxone. Other documented adverse effects were minor and included pruritus (22.7%), nausea (13.6%), emesis (9.1%), and lightheadedness (9.1%). CONCLUSION: Oral transmucosal fentanyl citrate can provide an alternative means of delivering effective, rapid-onset, and noninvasive pain management in an out-of-hospital, combat, or austere environment.

Krajicek, B. J., and H. H. Chen. "76-year-old woman with chest pain." *Mayo Clinic Proceedings* 79, no. 11(1435): 1435-8 UI 15544023.

Kulik, A., et al. "Postoperative naproxen after coronary artery bypass surgery: a double-blind randomized controlled trial." *European Journal of Cardio Thoracic Surgery* 26, no. 4(2004): 694-700 UI 15450559.

OBJECTIVE: Non-steroidal anti-inflammatory drugs (NSAIDs) are routinely used after coronary artery bypass surgery (CABG), yet their effects have seldom been evaluated in randomized controlled settings. The aim of this study was to examine the efficacy and safety of a commonly used NSAID, naproxen. We hypothesized that naproxen would reduce postoperative pain following CABG without increasing complications. METHODS: Patients (N=98) undergoing primary CABG were randomized to receive naproxen (500 mg q12hX5 doses via suppository started 1h after operation, followed by oral 250 mg q8hX6 doses) or placebo. Standard analgesic and anti-emetic regimens were available to both patient groups. Interventions were double-blinded. Primary end-points were postoperative pain measured before and after chest physiotherapy by visual analog scale and pulmonary slow vital capacity (SVC). RESULTS: Baseline characteristics were equivalent between the two groups. Over the first 4 postoperative days, naproxen decreased pain by 47+/-17% on average before chest physiotherapy (P=0.034), and 44+/-13% after chest physiotherapy (P=0.0092). Patients who received naproxen

also had better preservation of SVC over the first 4 postoperative days (mean loss of SVC from baseline: 2.1+/-0.1 vs. 2.5+/-0.1l, naproxen vs. placebo, P=0.0032). This was concomitant with a lower white blood cell count observed in naproxen patients (9.2+/-0.3 vs. 12.7+/-1.5x10(9)/l, naproxen vs. placebo, P=0.03). Patients who received naproxen had more chest tube drainage after 4h postoperatively, but there was no difference in the incidence or amount of transfusions. There was no difference in medication use, length of stay, or in the incidence of atrial fibrillation, azotemia, and other complications. CONCLUSIONS: Naproxen is an effective and low-cost adjunct for optimization of pain control and lung recovery after CABG. Its use may result in increased chest tube drainage, but no apparent increase in other complications.

Kumar, R., and A. Prasanna. "Post operative analgesia with continuous epidural infusion." *Middle East Journal of Anesthesiology* 17, no. 5(2004): 899-912 UI 15449747.

Forty eight ASA I or II patients of either sex between 20-70 years undergoing major upper abdominal surgery were grouped into sixteen each, on complaint of pain. They received an epidural bolus dose, followed by infusion of the assigned drug at 4ml per hour through BARD PCA I pump. Pain assessment, for the first four hours, was hourly, and subsequently at l0th, 16th, 22nd, 28th, 36th and 40th hour by VAS and VRS. The groups matched for demographic distribution. All groups had lower mean pain scores at first hour by VAS and VRS. In Group II and Group III, the difference was significant (<0.05) at the 2nd (VAS) and 4th (VRS) hours. From 16th (VAS) and 22nd (VRS) hours, the mean pain score was less and significant (<0.05) in Group III. In all groups sedation ranged from 0-1. There was hypotension in Group I (2/16).urinary retention in Group II (8/9 not catheterised); unilateral sensory impairment and motor weakness in Group I (3/16) and Group III (1/16). This study showed that continuous infusion of low dose morphine with bupivacaine provides better quality post operative analgesia with fewer side effects than bupivacaine or morphine alone.

Kunz, M., et al. "On the relationship between self-report and facial expression of pain." *Journal of Pain* 5, no. 7(2004): 368-76 UI 15501194.

Several investigators have reported weak or no associations between self-report and facial expression of pain, concluding that both parameters appear to be unrelated. However, studies so far have only focused on an overall association, not considering psychophysical relationships between stimulus intensities and pain responses while computing correlations. In the present study these psychophysical relationships, between stimulus intensity on the one hand and response magnitudes (of self-report and facial expression) on the other hand, were described in terms of intercept and slope. Correlation analyses were conducted between intercept and slope parameters of self-report and facial expression of pain. Forty young, pain-free individuals were investigated for their responses to mechanically and electrically induced pain. Self-report was assessed by Visual Analog Scales. Facial expression was examined by using the Facial Action Coding System. There were significant correlations between the linear slopes of the psychophysical functions of self-report and facial expression in pressure pain. Neither the intercepts nor overall mean responses in the 2 pain-signaling systems were significantly correlated. These findings suggest that the facial expression of pain appears to mirror self-report ratings, when their increases over a range of increasing stimulus intensities are considered in parallel. PERSPECTIVE: In future studies, our psycho-physically derived observation that incremental changes in facial expression during developing pain are more characteristic for individuals than static levels needs further corroboration.

Lambert, N., et al. "Reasons underpinning patients' preferences for various angina treatments." *Health Expectations* 7, no. 3(2004): 246-56 UI 15327463.

OBJECTIVE: To elicit patients' preferences for the treatment of angina. DESIGN: Angina patients were interviewed in order to elicit their personal reasons underlying preferences for various treatment options. Interviews followed a general repertory grid technique, in which seven treatment options were presented to patients in triads. Treatments considered ranged from medication to invasive revascularization therapies, with a 'no treatment' option. SETTING: Two general practices in Norwich, Norfolk. SUBJECTS: Twenty-one patients with diagnosed angina, which was both mild and stable. MAIN OUTCOME MEASURES: Treatment preferences verbalized by patients during interview, and the underlying reasons for these. RESULTS: Attitudes voiced towards the range of treatments for angina were diverse; 27 different reasons underlying patients' preferences were identified. Patients' preferences were largely justified by reasons associated with the conditional effectiveness or otherwise of treatments. When presented with treatment triads, medication (drug) treatments were over 2.5 times more likely to be chosen as a most preferred option than invasive or surgical treatments. Although surgical treatments were generally considered to be 'effective', it was perceived that they were more appropriate for situations when the condition became life-threatening. There were occasions, however, when preferences were driven by other reasons, such as a desire to avoid surgery because it was perceived negatively as 'invasive' and 'frightening'. Drug treatments were viewed as 'quick', 'easy' and reversible. Personal experiences of the effectiveness or otherwise of treatments were frequently cited as reasons for stated preferences. However, patients often commented that they would prefer the doctor to make the decision about their treatment. CONCLUSIONS: Patients choices among treatments was largely driven by perceptions of their effectiveness or otherwise. Although surgery was perceived as 'effective' it was also seen as conditionally so, dependent upon severity of the condition - which is not necessarily the case, as the risks of adverse events and surgical complications increase for emergency cases. As such, access to better information about the effectiveness and timeliness of interventions is needed. Although respondents held anxieties about treatment, particularly invasive or surgical treatments, fewer choices were driven by emotional and lifestyle factors unrelated to 'effectiveness', such as fear or ease of treatment.

Levy, P., et al. "Efficacy of lanreotide 30 mg on prevention of pain relapse after oral refeeding in patients with necrotizing acute pancreatitis. A phase II prospective multicentre study." *Pancreatology* 4, no. 3-4(2004): 229-32 UI 15148442.

BACKGROUND: Pain relapse after oral refeeding occurs in 21% of the patients with acute pancreatitis, and in 35% of those with CT Balthazar's score > or =D [Gut 1997;40:262]. Somatostatin analogues may decrease the pain relapse rate by inhibiting exocrine pancreatic secretion. AIMS, PATIENTS AND METHODS: To assess the frequency of pain relapse in patients with acute necrotizing pancreatitis after treatment with one intramuscular injection of lanreotide 30 mg on the day before refeeding. The refeeding procedure was standardized and progressive. RESULTS: 23 patients were included in 4 centres. Acute pancreatitis was alcoholic (n = 11), biliary (n = 7), other (n = 5). Twelve patients had > or =3 Ranson's criteria. Balthazar's score (1985) was D or E in 7 and 16 patients, respectively. Median duration of pain and of interruption of oral feeding were 11 (3-23) and 16 (5-34) days, respectively. Median hospital stay was 22 (9-41) days. Only 1 patient (4.3 %) had pain occurring 3 days after refeeding. CONCLUSION: Pain relapse occurred in 4.3% of patients pretreated with the somatostatin analogue lanreotide, and this figure is lower than the expected 35% rate which was previously reported without preventive treatment. This suggests that one intramuscular injection of lanreotide 30 mg on the day before refeeding could decrease pain relapse in patients with acute necrotizing pancreatitis, but has to be confirmed in a phase III study. Copyright 2004 S. Karger AG, Basel and IAP

Li, D., and K. Puntillo. "What is the current evidence on pain and sedation assessment in nonresponsive patients in the intensive care unit?" *Critical Care Nurse* 24, no. 5(2004): 72-3 UI 15526492.

Assessing pain and sedation in nonresponsive patients is challenging. A major challenge is the confounding effect of sedation on objective indicators of pain. Clinicians might infer that adequate sedation means different patient states: promotion of amnesia, sleep/rest, patient safety, ventilator synchrony, and hemodynamic stability. Hence, an ideal measure that can adequately address the complexity and individualize the nature of the goals of pain and sedation therapy remains elusive. Furthermore, the behavioral responses to pain and anxiety/agitation (eg, restlessness, ventilator dyssynchrony, and movement) have many similarities. Tolerance to mechanical ventilation has been suggested to have validity in both an ICU pain scale and a sedation scale. Additional research is needed to establish the validity, sensitivity, and specificity of these pain indicators in sedated patients. In the meantime, in circumstances where patients are nonresponsive to external stimuli, clinicians should integrate other information such as actual or potential risks of pain (eg, extensiveness of injury, invasive therapies, intubation) and risks of pain-related functional impairment into their pain assessment in nonresponsive, sedated patients. [References: 34]

Liu, C., A. J. Thompson, and E. D. Playford. "Patient dissatisfaction: insights into the rehabilitation process." *Journal of Neurology* 251, no. 9(1094): 1094-7 UI 15372252.

Most patients admitted for inpatient rehabilitation find it beneficial even when there is little change in physical disability. The aim of this study was to determine the characteristics of patients who felt that they had not benefited from inpatient rehabilitation and to delineate the underlying reasons for this perception. From a database of 331 patients admitted to a neurological rehabilitation unit over a three-year period, we ascertained those with a low score (< 5) on a self-rated visual analogue scale (VAS) regarding their perception of the benefit of rehabilitation. We investigated their disability outcomes, aspects of the rehabilitation process through analysis of integrated care pathways, and from inspection of the multidisciplinary record identified specific adverse factors which might contribute to dissatisfaction. Low VAS scores were detected in 6% of patients (n = 19). These did not correlate with baseline demographic factors or disability levels, but were associated with unresolved external problems regarding community care and accommodation, and conflicts between patients and therapists. We conclude that from the patients' perspective, successful inpatient rehabilitation depends on adequate attention given to community-based issues and health care professionals recognising patients' needs. When these two conditions are not fulfilled, patients are more likely to express a lack of satisfaction with their rehabilitation.

Locklin, J. K., et al. "Palliation of soft tissue cancer pain with radiofrequency ablation." *The Journal of Supportive Oncology* 2, no. 5(2004): 439-45 UI 15524075.

The purpose of this study was to analyze the feasibility, safety, and efficacy of radiofrequency ablation (RFA) to treat pain from soft tissue neoplasms. RFA was performed on 15 painful soft tissue tumors in 14 patients. Tumors varied in histology and location and ranged in size from 2 to 20 cm. Patient pain was assessed using the Brief Pain Inventory (BPI) at baseline and 1 day, 1 week, 1 month, and 3 months post RFA. All patients had unresectable tumors or were poor operative candidates whose pain was poorly controlled by conventional treatment methods. BPI scores were divided into two categories: pain severity and interference of pain. Although not all scores were statistically significant, all mean scores trended down with increased time post ablation. Based on these outcomes, RFA appears to be a low-risk and well-tolerated procedure for pain palliation in patients with unresectable, painful soft

tissue neoplasms. RFA is effective for short-term local pain control and may provide another option for failed chemotherapy or radiation therapy in patients with cancer. However, pain may transiently worsen, and relief is often temporary.

Lussier, D., and M. Pappagallo. "10 most commonly asked questions about the use of opioids for chronic pain." *Neurologist* 10, no. 4(2004): 221-4 UI 15252358.

Manchikanti, L., M. V. Boswell, and S. Atluri. "Re: systematic review of long-acting oral opioids.[comment]." *Journal of Pain & Symptom Management* 28, no. 3(2004): 194-5 UI 15336326.

Mawhorter, S., et al. "Topical vapocoolant quickly and effectively reduces vaccine-associated pain: results of a randomized, single-blinded, placebo-controlled study." *Journal of Travel Medicine* 11, no. 5(2004): 267-72 UI 15544709.

BACKGROUND: Comprehensive international travel preparation often requires several vaccines. Up to 90% of adults have some fear of injections, mostly due to injection-related pain. Pediatric studies with routine vaccines have shown topical anesthetic EMLA cream (lidocaine and prilocaine, Astra Pharmaceuticals, Inc.) and the topical vapocoolant Fluori-Methane (dichlorodifluoromethane and trichlorodifluoromethane, Gebauer Co.) to be equally effective in reducing pain from vaccinations. EMLA cream is expensive and requires a 60-min application, while Fluori-Methane (FM) is immediate in onset of action and inexpensive. Skin anesthesia begins at 10 degrees C. Fluori-Methane can briefly cool the skin to 0 degrees C. METHODS: We studied the effectiveness of topical vapocoolant on adult clients at our international travel clinic in a randomized, controlled trial of topical FM vs. cold (4 degrees C) saline placebo. Using a preset randomization table, participants served as their own controls, receiving placebo/control or active agent (participant blinded) in one arm (left or right), and a similar number of vaccines in the untreated arm. Vaccines were administered according to a set protocol per arm to minimize the risk of bias. Pain was measured using a modified McGill present pain intensity (PPI) pain index. Subjects rated their pain immediately and at 5 min on a six-level scale, noting treated and untreated arms separately. A questionnaire was completed on intervention preferences. Sample size was predetermined to achieve 90% statistical power estimating 25% efficacy (minimum n=172). RESULTS: One hundred and eighty-five participants were enrolled; 93 FM and 92 cold saline placebo. FM-treated arms had a significant reduction in immediate pain compared to untreated arms (pain scale mean 2.2 vs. 3.1; p<.0001), and compared to placebo (mean 2.2 vs. 2.8; p<.01). Delayed pain at 5 min was not affected by FM or control (mean 1.9 vs. 2.0) compared to no intervention (pain scale 1.9). The intervention preference questionnaire indicated that participants did not find FM therapy uncomfortable. They would choose FM therapy in the future, over a cream, especially if a wait was involved. CONCLUSION: The topical vapocoolant Fluori-Methane is an effective, quick, preferred, inexpensive agent for reducing vaccine-associated injection pain for international travel clients.

McCarberg, B. "Contemporary management of chronic pain disorders." *Journal of Family Practice* 53, no. 10 Suppl(2004) UI 15469761.

McCartney, C. J., I. Brauner, and V. W. Chan. "Ultrasound guidance for a lateral approach to the sciatic nerve in the popliteal fossa." *Anaesthesia* 59, no. 10(1023): 1023-5 UI 15488065.

Descriptions of the use of ultrasound for nerve location have focused on upper limb blocks. We present a case in which ultrasound imaging was used for a lateral approach to the sciatic nerve in the popliteal fossa. Ultrasound images taken proximal to the popliteal crease showed tibial and common peroneal nerves as round hyperechoic structures superficial and lateral to the tibial artery. Under direct

ultrasound guidance, we placed a block needle close to the tibial nerve and confirmed its position with nerve stimulation. Injected local anaesthetic was seen on ultrasound as it spread around both tibial and common peroneal nerves.

Mehdizade, A., et al. "Percutaneous vertebroplasty through a transdiscal access route after lumbar transpedicular instrumentation." *Spine Journal: Official Journal of the North American Spine Society* 4, no. 4(2004): 475-9 UI 15246309.

BACKGROUND CONTEXT: Transpedicular vertebroplasty is an effective procedure to reduce pain and stabilize osteoporotic vertebral fractures. It is, however, difficult to perform after transpedicular instrumentation because the pedicle screws are in the way. PURPOSE: To determine if vertebroplasty can be performed in patients who have previously undergone osteosynthesis pedicle-screw fixation. STUDY DESIGN: We postulate that an alternate transdiscal route can be used in cases with instrumentation in order to successfully perform vertebroplasty. METHODS: We report the case of a 73-year-old male patient presenting with a fresh osteoporotic fracture of L2 and L3 6 weeks after having undergone a dorsal operative stabilization between L3 and L5. RESULTS: Vertebroplasty was performed using a transdiscal descending approach to treat the two adjacent vertebral levels. The patient reported a 50% decrease in pain and was able to walk with a stick at 3 months. At late follow-up at 18 months his walking had further improved and he experienced only sporadic lumbar pain. CONCLUSIONS: Vertebroplasty can be performed in patients having previously undergone transpedicular instrumentation. The transdiscal route represents such a new approach.

Mellick, L. B., and G. A. Mellick. "Treatment of primary headache in the emergency department.[comment]." *Headache* 44, no. 8(2004): 840-1 UI 15330841.

Menahem, S., and P. Shvartzman. "High-dose fentanyl patch for cancer pain." *Journal of the American Board of Family Practice* 17, no. 5(2004): 388-90 UI 15355954.

OBJECTIVE: To describe a successful experience with a high dose (1000 microg/hr) of transdermal fentanyl for cancer pain relief. CASE REPORT: A 62-year-old man suffering from rectal carcinoma was treated by our home care hospice unit during his last 3.5 months of life. At admission to our home care unit, he suffered mostly from severe anal pain (verbal pain scale of 10/10) due to advanced disease. He was then on 150 microg/hr transdermal fentanyl. Adjuvant therapy with amitriptyline 50 mg/day and dexamethasone 4 mg/day was added, but it did not relieve his pain. The dose of transdermal fentanyl was increased gradually to 1000 microg/hr with good pain control (verbal pain scale of 1 to 4/10 most of the time). Before his death, he was mentally alert with good pain control. CONCLUSIONS: High doses of transdermal fentanyl (1000 microg/hr; 10 patches) should be considered for pain relief in cancer patients.

Mireku-Boateng, A. O. "Intravenous ketorolac significantly reduces the pain of office transrectal ultrasound and prostate biopsies." *Urologia Internationalis* 73, no. 2(2004): 123-4 UI 15331895.

INTRODUCTION: Campbell's' Urology, 8th edition, indicates that office transrectal ultrasound (TRUS) and prostate biopsies require no anesthesia. This is however in contradistinction from the experience of patients who have had the procedure. A study was conducted to evaluate whether 60 mg of intravenous Ketorolac before the procedure makes it more tolerable. MATERIAL AND METHODS: A prospective study was performed involving 24 patients who were randomized into two groups. One group was given 60 mg of Ketorolac intravenously before the procedure and the control group received no analgesia. RESULTS: The two groups were comparable in age and the indications for the TRUS and prostate biopsies. The number of biopsy cores tolerated and taken was significantly less in the control group than in the

group that was given intravenous Ketorolac. The degree of pain in the group that had intravenous Ketorolac was significantly less than in the no analgesia group. CONCLUSION: TRUS with prostate biopsies is a painful procedure. Intravenous Ketorolac significantly reduces the pain involved in the procedure and allows patients to tolerate it better for a more complete procedure.

Mokri, B., A. J. Aksamit, and J. L. Atkinson. "Paradoxical postural headaches in cerebrospinal fluid leaks." *Cephalalgia* 24, no. 10(2004): 883-7 UI 15377320.

Two patients with cerebrospinal fluid (CSF) leak, one at the level of fourth thoracic spine and another with undetermined level of leak, presented with paradoxical postural headaches in that the headaches were present when in a horizontal position and resolved if the patients were upright. One patient improved spontaneously and the other responded to a targeted epidural blood patch. Paradoxical postural headache is yet another headache type that can be associated with CSF leak and CSF volume depletion. Its mechanism is uncertain, but it could be related to congestion and dilatation of cerebral venous sinuses and large veins.

Monnink, S. H., et al. "The role of coronary endothelial function testing in patients suspected for angina pectoris." *International Journal of Cardiology* 96, no. 2(2004): 123-9 UI 15262024.

Coronary vasomotor function plays an important role in onset and progression of coronary artery disease. Suwaidi [Circulation 101 (2000) 948] and Schachinger [Circulation 101 (2000) 1899] demonstrated that vasomotor dysfunction has a significant impact on events in patients with minimal coronary artery disease. Endothelial specific testing can be performed in coronary as well as peripheral arteries. However, non-coronary tests have a low correlation with the coronary vasomotor response, as assessed by acetylcholine. In large clinical prospective placebo-controlled trials, angiotensin-converting enzyme (ACE) inhibitors and lipid-lowering drugs reduce morbidity and mortality after myocardial infarction or myocardial infarction-induced heart failure. The same drugs restore endothelial dysfunction after myocardial infarction, as was demonstrated in small experimental and clinical studies. Recent studies in patients with coronary artery disease showed a relation with endothelial dysfunction and the occurrence of adverse coronary events. For this reason, it is important to develop methods to evaluate endothelial function. Copyright 2003 Elsevier Ireland Ltd. [References: 110]

Mork, P. J., and R. H. Westgaard. "The association between nocturnal trapezius muscle activity and shoulder and neck pain." *European Journal of Applied Physiology* 92, no. 1-2(2004): 18-25 UI 14985992.

The study investigated the possible association between nocturnal trapezius muscle activity and shoulder and neck pain. Sixty female subjects participated in the study, 33 were classified as pain-afflicted on the basis of shoulder and neck pain reports for the previous 6 months. Electromyographic (EMG) activity was monitored bilaterally from the trapezius in all recordings. EMG recording of the deltoid, biceps, and hand flexors was included for 26 subjects (17 with pain) to provide a comparative basis for evaluation of the trapezius recordings. There was considerable variation in the amount of muscle activity between subjects; however, some subjects presented a continuous, low-level activity pattern throughout the presumed sleep period. Subjects classified as pain-afflicted had significantly higher activity level and longer duration of trapezius EMG activity than the pain-free subjects. The deltoid had significantly more activity than the trapezius, while the biceps and the hand flexors presented similar activity level and duration as the trapezius. Nocturnal trapezius activity was not associated with pain exacerbation the same night. We suggest nocturnal trapezius muscle activity is a pointer to physiological mechanisms that contribute to some forms of shoulder and neck pain, such as trapezius myalgia, but

nocturnal muscle activity may not be casually implicated in the pain-induction process.

Mueller, M. J., et al. "Impact of achilles tendon lengthening on functional limitations and perceived disability in people with a neuropathic plantar ulcer." *Diabetes Care* 27, no. 7(1559): 1559-64 UI 15220228.

OBJECTIVE: An Achilles tendon-lengthening (ATL) procedure is effective at reducing ulcer recurrence in patients with diabetes, peripheral neuropathy, and a plantar ulcer, but its effects on functional limitations and perceived disability are unknown. The purpose of this study is to report the effects of an ATL and total contact casting (TCC) on the functional limitations and perceived disability of patients with neuropathic plantar ulcers. RESEARCH DESIGN AND METHODS: Twenty-eight subjects with a mean age of 55 +/- 10 years and a BMI of 33 +/- 6 kg/m(2) participated. All subjects had a history of diabetes, loss of protective sensation, limited ankle motion, and a recurrent forefoot ulcer. Subjects were randomized into two groups: an ATL group (n = 14), who received treatment of ATL, and TCC and a TCC group (n = 14), who received TCC only. Subjects completed a modified physical performance test (PPT) and the SF-36 Health Survey before treatment, after primary treatment and healing of the plantar forefoot ulcer, and 8 months after initial ulcer healing. RESULTS: There were no significant changes in functional limitations as measured by the PPT between groups or over time. The physical summary score of the SF-36 decreased slightly from before treatment to 8 months after initial ulcer healing in the ATL group (35 +/- 7 to 31 +/- 6), whereas the TCC group score increased during this time (34 +/- 8 to 39 +/- 11; P < 0.05). CONCLUSIONS: The ATL resulted in no measurable change in functional limitations, but patients receiving an ATL and TCC reported lower physical functioning at 8 months after initial ulcer healing than subjects receiving TCC alone and may require additional physical therapy to address this perceived disability.

Ng, J. M., and P. M. Hartigan. "Pain management strategies for patients undergoing extrapleural pneumonectomy." *Thoracic Surgery Clinics* 14, no. 4(2004): 585-92 UI 15559066.

The role of anesthetic or analgesic technique in outcome remains controversial. The choice of anesthetic and postoperative analgesic plan plays a small, albeit important, role in perioperative care and a multimodal rehabilitation program. Pulmonary complications are the most important cause of morbidity and mortality after EPP. There is increasing evidence that TEA with local anesthetic agents and opioids is superior for the control of dynamic pain, plays a key role in early extubation and mobilization, reduces postoperative pulmonary complications, and has the potential to decrease the incidence of PTPS. [References: 54]

Nichols, P. S., and G. Winslow. "Emergency situations." *General Dentistry* 52, no. 5(2004): 385-6 UI 15544212.

Nordin, P., et al. "Type of anaesthesia and patient acceptance in groin hernia repair: a multicentre randomised trial." *Hernia* 8, no. 3(2004): 220-5 UI 15235937.

BACKGROUND: Groin hernia repair can be performed under general (GA), regional (RA), or local (LA) anaesthesia. This multicentre randomised trial evaluates patient acceptance, satisfaction, and quality of life with these three anaesthetic alternatives in hernia surgery. METHODS: One hundred and thirty-eight patients at three hospitals were randomised to one of three groups, GA, RA, or LA. Upon discharge, they were asked to complete a specially designed questionnaire with items focusing on pain, discomfort, recovery, and overall satisfaction with the anaesthetic method used. The global quality-of-life instrument EuroQol was used for estimation of health perceived. RESULTS: Significantly more patients in the LA group than in the RA group felt pain during surgery (P<0.001). This pain was

characterised as light or moderate and for the majority of LA patients was felt during infiltration of the anaesthetic agent. Postoperatively, patients in the LA group first felt pain significantly later than patients in the other two groups (P=0.012) and significantly fewer LA patients consumed analgesics more than three times during the first postoperative day (P=0.002). The results concerning nausea, vomiting, and time to first meal all favour LA. No difference was found among the three groups concerning overall satisfaction and quality of life. CONCLUSION: In a general surgical setting, we found LA to be well tolerated and associated with significant advantages compared to GA and RA.

Norris, R. M. "Acute coronary syndromes.[comment]." *New Zealand Medical Journal* 117, no. 1200(1200): 20 UI 15475997.

Ossipov, M. H., et al. "Antinociceptive and nociceptive actions of opioids." *Journal of Neurobiology* 61, no. 1(2004): 126-48 UI 15362157.

Although the opioids are the principal treatment options for moderate to severe pain, their use is also associated with the development of tolerance, defined as the progressive need for higher doses to achieve a constant analgesic effect. The mechanisms which underlie this phenomenon remain unclear. Recent studies revealed that cholecystokinin (CCK) is upregulated in the rostral ventromedial medulla (RVM) during persistent opioid exposure. CCK is both antiopioid and pronociceptive, and activates descending pain facilitation mechanisms from the RVM enhancing nociceptive transmission at the spinal cord and promoting hyperalgesia. The neuroplastic changes elicited by opioid exposure reflect adaptive changes to promote increased pain transmission and consequent diminished antinociception (i.e., tolerance). [References: 250]

Oster, G., et al. "Use of potentially inappropriate pain-related medications in older adults with painful neuropathic disorders." *American Journal Geriatric Pharmacotherapy* 2, no. 3(2004): 163-70 UI 15561648.

BACKGROUND: Although older adults with painful neuropathic disorders (PNDs) would appear to be at elevated risk for receiving potentially inappropriate pain-related medications, the extent of such drug use in this population is unknown. OBJECTIVE: The goal of this study was to assess the use of potentially inappropriate pain-related medications among patients with PNDs aged >or=65 years. METHODS: Using a large, integrated US health insurance database, we identified all persons aged >or=65 years with >or=2 medical encounters involving diagnoses of PNDs during calendar year 2000. Patients with <30 days of continuous eligibility for health benefits during the study year were excluded from the sample. Use of potentially inappropriate pain-related medications (as defined by the 1997 Beers criteria) was then examined based on information contained in paid pharmacy claims for all remaining patients. RESULTS: We identified 22,668 patients with PNDs aged >or=65 years (mean [SD] age, 73.9 [6.0] years; 58.6% female). Almost one half (11,233 [49.6%]) of patients received >or=1 potentially inappropriate pain-related medication, including propoxyphene (26.7%) and amitriptyline (10.2%). Women were more likely than men to receive these medications (54.2% vs 43.0%, respectively; P<0.01), and use increased with age (47.6%, 51.8%, and 52.8% in those aged 65-74 years, 75-84 years, and >or=85 years, respectively; overall comparison, P<0.01). Among patients with only 1 PND, the use of potentially inappropriate medications was highest among those with postherpetic neuralgia (70.1%). CONCLUSIONS: Use of potentially inappropriate pain-related medications among older adults with PNDs is common. Further research is needed to ascertain whether the benefits of these agents outweigh their risks in this population.

Ozyuvaci, E., N. Yanmaz Alnigenis, and A. Altan. "The effect of transdermal fentanyl treatment on serum cortisol concentrations in patients with non-cancer pain." *Journal of Pain & Symptom Management* 28, no. 3(2004): 277-81 UI 15336341.

We treated 50 patients with chronic nonmalignant pain using transdermal fentanyl (TDF) 25 microg/hr and concurrently measured pain using a visual analog scale (VAS) and serum cortisol concentration. We determined these outcomes at baseline and on days 30, 60, and 90 of the therapy. The patients also were asked to document any adverse effects. We found that mean cortisol concentrations on days 30, 60, and 90 of therapy were significantly ($P < 0.0001$) lower than the basal mean cortisol level, and mean VAS scores at days 30, 60, and 90 of therapy were also significantly better than the initial mean value ($P < 0.0001$). Fourteen patients experienced severe adverse events. These observations suggest that serum cortisol concentrations may be elevated in chronic non-cancer pain states and that TDF therapy can reduce cortisol levels in parallel with reduction in pain.

Palacios, L. C., et al. "Clinical inquiries. Do steroid injections help with osteoarthritis of the knee?" *Journal of Family Practice* 53, no. 11(2004): 921-2 UI 15527732.

Pande, K. C. "The role of bed rest in acute low back pain." *Journal of the Indian Medical Association* 102, no. 4(2004): 202-4 UI 15473289.

Acute low back pain is a common problem and clinicians from a number of different disciplines are involved in its management. Advice on daily activities constitutes an important part in the management of low back pain. In spite of evidence against its efficacy, bed rest continues to be a cornerstone of treatment. The purpose of this review is to present evidence from literature to determine the effectiveness of bed rest for patients with acute low back pain together with comparison of bed rest versus advice to stay active, bed rest versus other treatment modalities and shorter periods of bed rest (2 to 4 days) versus longer periods (more than 4 days) of bed rest. There is strong evidence to suggest that bed rest is not effective in the management of acute low back pain. [References: 8]

Parsons, B., L. Tive, and S. Huang. "Gabapentin: a pooled analysis of adverse events from three clinical trials in patients with postherpetic neuralgia." *American Journal Geriatric Pharmacotherapy* 2, no. 3(2004): 157-62 UI 15561647.

BACKGROUND: Gabapentin has been shown to be well tolerated and effective in the management of the pain associated with postherpetic neuralgia (PHN). It is assumed that adverse events occurring with gabapentin are dose related, their frequency and severity increasing with increasing doses. OBJECTIVE: The aim of this study was to assess the dose dependence of adverse events with gabapentin by determining the relationship between increasing doses of gabapentin and the onset and/or worsening of adverse events in patients with PHN. METHODS: Data were pooled from 3 randomized, double-blind, placebo-controlled, parallel-group studies of gabapentin that focused on or included patients with PHN. Gabapentin was initiated at 300 mg/d and titrated to maintenance doses of 1800 to 3600 mg/d by day 12 to 24. The analysis of adverse events was based on 3 distinct groups: patients who received gabapentin <1800 mg/d, those who received gabapentin >or=1800 mg/d, and those who received placebo. Patients who were given higher doses of gabapentin had already received lower doses. An adverse event was recorded at the dose of its first onset and recorded again if its severity worsened at a higher dose. RESULTS: This study included data from 603 patients with PHN: 358 patients (196 [54.7%] women, 162 [45.3%] men; mean [SD] age, 72.3 [10.3] years) received gabapentin, and 245 (133 [54.3%] women, 112 [45.7%] men; mean [SD] age, 73.3 [10.7] years) received placebo. The 3 most common adverse events were dizziness, somnolence, and peripheral edema. Patients receiving gabapentin >or=1800 mg/d had a higher incidence of peripheral edema (7.5%) than those receiving gabapentin <1800 mg/d (1.4%) or placebo (1.6%) (P<0.002, gabapentin >or=1800 mg/d vs

placebo). In contrast, the incidence of dizziness and somnolence was not higher in patients receiving gabapentin >or=1800 mg/d compared with those in the other groups. Compared with placebo recipients, patients receiving gabapentin <1800 mg/d reported a significantly greater frequency of dizziness (20.2% gabapentin <1800 mg/d vs 7.4% placebo; P<0.002) and somnolence (14.9% vs 5.8%, respectively; P=0.005). However, at >or=1800 mg/d, rates of dizziness (9.7%) and somnolence (6.9%) were comparable to those with placebo. Discontinuation rates were comparable between patients receiving gabapentin and those receiving placebo. CONCLUSIONS: In this pooled analysis of adverse-event data from 3 clinical trials in patients with PHN, the incidence of peripheral edema was increased when gabapentin was titrated to >or=1800 mg/d. Dizziness and somnolence, the other most commonly occurring adverse events, were transient and did not occur more frequently or worsen with titration to >or=1800 mg/d. Based on these findings, it does not appear that safety concerns should limit titration of gabapentin to achieve optimal efficacy.

Perkins, P., et al. "Pain from myelofibrosis treated with regular pamidronate." *British Journal of Haematology* 127, no. 3(2004): 366-7 UI 15491303.

Perlman, K. M., S. Myers-Phariss, and J. C. Rhodes. "A shift from demerol (meperidine) to dilaudid (hydromorphone) improves pain control and decreases admissions for patients in sickle cell crisis.[see comment]." *Journal of Emergency Nursing* 30, no. 5(2004): 439-46 UI 15452522.

Pleiner, J., et al. "Extracorporeal shockwave treatment is effective in calcific tendonitis of the shoulder. A randomized controlled trial." *Wiener Klinische Wochenschrift* 116, no. 15-16(2004): 536-41 UI 15471181.

BACKGROUND: Calcific tendonitis of the shoulder is often associated with chronic pain and impairment of function. Extracorporeal shockwave therapy (ESWT) is considered to be a treatment option. We compared the effects of two different ESWT regimens. METHODS: 43 patients (57 shoulders) with symptomatic calcific tendonitis of the shoulder for more than six months were included in a double-blinded study. Thirty-one shoulders were treated at the area of maximum pain with application of 2 x 2000 impulses of 0.28 mJ/mm2 at an interval of two weeks (treatment group) and 26 shoulders with 2 x 2000 impulses of < 0.07 mJ/mm2 at an interval of two weeks (control group), without pretreatment analgesia. Shoulder function (Constant score) and pain (visual analogue scale, VAS) were assessed before treatment and at one week, three months and seven months after treatment. Shoulder X-rays were performed at the 3- and 7-month follow-up visits. RESULTS: Improvement in Constant score was significantly higher in the treatment group at all follow-up visits ($p < 0.05$). Seven months post-treatment, calcifications dissolved completely in 19% of the treatment group and 8% of the control group, and a > 50% reduction was observed in 19% and 8% respectively. With regard to reduction of pain, there was significant improvement in the treatment group compared with the control group at the 1-week follow-up ($p < 0.05$). However, at the 3-month and 7-month visits, no significant between-group difference in pain could be detected. CONCLUSION: As applied, ESWT with an energy flux density of 0.28 mJ/mm2 led to a significantly greater improvement in shoulder function and a slightly higher, nonsignificant, rate of > 50% disintegration of calcific deposits compared with the control group. However, this did not result in reduction of pain.

Pralong, E., et al. "Recording of ventral posterior lateral thalamus neuron response to contact heat evoked potential in patient with neurogenic pain." *Neuroscience Letters* 367, no. 3(2004): 332-5 UI 15337260.

Microrecording of single unit response to contact heat-evoked potential (CHEP) were performed in right ventral posterior lateral (VPL) thalamus during deep brain

stimulation (DBS) surgery in a patient with chronic neurogenic pain. In our patient, neurons (n = 10) recorded in the ventral thalamus fired at a higher rate of 40 Hz compared to neurons recorded in Parkinsonian patients (24 Hz). Contact heat was applied by a fast heating and cooling probe of 5 cm2 area on the dermatome C6 territory of the left hand. One out of four thalamic cells located in the VPL responded repetitively 325 ms after the peak temperature was reached with a burst of action potential, suggesting A-delta fibre activation. This observation supports the use of CHEP for mapping nociceptive neurons location during DBS surgery for intractable pain.

Primm, B. J., et al. "Managing pain: The Challenge in Underserved Populations: Appropriate Use Versus Abuse and Diversion." *Journal of the National Medical Association* 96, no. 9(1152): 1152-61 UI 15481743.

ISSUE: Inadequate pain management is a serious public health problem that affects a wide cross-section of Americans. Patients are often denied sufficient medication, because physicians lack training and fear scrutiny from federal and state regulatory agencies. In addition, even the state-financed system of care, Medicaid, has been increasingly denying payment for the best treatment for pain management. These factors are complicated by physician bias about various subgroups and poor physician-patient communication. Comprehensive patient assessment plays a crucial role in determining appropriate treatment and identifying potential abuse problems. Physicians must routinely document medications analgesic effects and screen for potential ill effects and drug abuse. OBJECTIVE: To examine the prevalence of the undertreatment of pain, particularly among African Americans, and to recommend relevant proactive policy and practice changes to aid in eliminating this health problem. CONSENSUS PROCESS: In July 2002, the NMA convened the "Managing Pain: The Challenge in Underserved Populations: Appropriate Use versus Abuse and Diversion" Consensus Meeting in Washington, DC. The country's most renowned experts in the area of pain management and substance abuse reviewed substantial information regarding pain management and substance abuse including the following: --A draft summary paper on pain management and substance abuse that served as briefing material for consensus members; --Annotated bibliographies; --Articles on pain management and substance abuse; and --Key presentations on pain management and substance abuse. [References: 50]

Rasmussen, P. V., et al. "TDM-based imipramine treatment in neuropathic pain." *Therapeutic Drug Monitoring* 26, no. 4(2004): 352-60 UI 15257063.

Tricyclic antidepressants (TCA) are the best-documented treatment of neuropathic pain. TCAs have a pronounced interindividual pharmacokinetic variability and a narrow therapeutic index. The aim of this study was to characterize the plasma concentration-effect relationship of imipramine in neuropathic pain and to determine the usefulness of therapeutic drug monitoring (TDM) of TCA treatment in a population with noncancer chronic pain. To do this, 83 patients with chronic noncancer neuropathic pain were included. Information on previous use of TCA was collected, and patients were tested for the presence of hyperalgesia. Pain intensity and pain relief were recorded, and the Short Form McGill Pain Questionnaire and Major Depression Inventory were completed before and during a TDM-based imipramine treatment. Imipramine dose was increased in steps of 25 mg/d every second week, and blood samples were taken at every dose. Endpoints were best possible pain relief, unacceptable side effects, or insufficient pain relief despite plasma drug level > 500 nmol/L. Dose range used was 10-300 mg/d. The study showed that imipramine 75 mg/d caused a 36-fold interindividual variation in steady-state plasma drug concentrations. In 46 responders (global pain relief > 25%) the plasma drug concentration at which an individual maximal analgesic effect was obtained ranged from 50 to 1400 nmol/L, but for the majority it was below 400 nmol/L. The concentration-effect relationship was similar for patients with central

versus peripheral neuropathic pain and independent of the presence of hyperalgesia. Previous treatment failure with non-TDM TCA treatment was not a predictor of poor response to TDM-based treatment. In conclusion, there is a pronounced interindividual variability in concentration-effect relationship for imipramine treatment in neuropathic pain, but the majority of patients obtain a maximal analgesic effect at drug levels below 400 nmol/L. The concentration-effect relationship is similar for patients with central and peripheral neuropathic pain. Further studies are needed to document if TDM improves pain relief; however, TDM reduces the risk for toxicity.

Reddy, S., M. Fisch, and E. Bruera. "Oral methadone for cancer pain: no indication of Q-T interval prolongation or torsades de pointes." *Journal of Pain & Symptom Management* 28, no. 4(2004): 301-3 UI 15471646.

Reimer-Kent, J. "Improving post-operative pain management by focusing on prevention." *Nursing Bc* 36, no. 4(2004): 20-4 UI 15552180.

Rhiner, M., G. Palos, and M. Termini. "Managing breakthrough pain: a clinical review with three case studies using oral transmucosal fentanyl citrate." *Clinical Journal of Oncology Nursing* 8, no. 5(2004): 507-12 UI 15515284.

Pain management begins with the use of appropriate assessment tools and includes planning, implementing, and evaluating a comprehensive treatment plan that addresses persistent and breakthrough pain. Persistent pain is present to some degree throughout the day and primarily is controlled with around-the-clock medication. However, it often is accompanied by episodes of short, intermittent pain, also known as breakthrough pain. From a clinical perspective, breakthrough pain is characterized as a transitory exacerbation of pain that occurs on a background of otherwise stable pain in a patient receiving chronic opioid therapy. Breakthrough pain typically is moderate to severe in intensity and can be triggered by various activities (incident pain), be entirely unpredictable (idiopathic pain), or occur toward the end of around-the-clock medication (end-of-dose failure). Breakthrough pain occurs in as many as 86% of patients with cancer even when persistent pain is well controlled. Clinicians and patients should address persistent and breakthrough pain as distinct entities to accurately assess it and develop appropriate pain management plans. This article provides an overview of the clinical characteristics of persistent and breakthrough pain and, through the use of three case studies, illustrates practical strategies for managing breakthrough pain effectively. [References: 25]

Ricard-Hibon, A., et al. "Quality control programme for acute pain management in emergency medicine: a national survey." *European Journal of Emergency Medicine* 11, no. 4(2004): 198-203 UI 15249805.

OBJECTIVE: This national survey was carried out to evaluate the quality programme for acute pain management in the emergency department (ED) and in pre-hospital emergency medical services (EMS). METHODS: Two types of questionnaires were sent to the chief consultant and the chief nurse of all ED and EMS. Data collected were: the type of structure, quality programme organization, acute pain management, and the training needs to initiate a pain quality programme. RESULTS: A total of 363 questionnaires were recorded (198 from chief consultants) with 98% of questionnaires being usable. A pain management committee existed in 71% of cases, a quality committee in 83%. A complete quality control procedure existed in 53% of units. An audit on pain management was carried out in only 23% of cases. Training in quality was performed for 64% of physicians and 68% of nurses. Training specifically for pain management was carried out for physicians in 56% of cases and for nurses in 68% of cases. Pain therapeutics protocols existed in 69% of cases. Pain intensity was evaluated 'systematically or often' in 64% at the beginning of patient management, and in 56% at the end of patient management.

The staff was 'not very motivated' for a pain management quality programme in less than 3% of responses. A total of 61% of chief consultants and 58% of chief nurses requested advice. CONCLUSION: Most ED and EMS units seem to master the quality control programme methodology. Units are highly motivated to initiate a quality control programme on pain. Nevertheless, its implementation could benefit from some external support.

Roe, M. T., et al. "Overcoming the challenges facing quality-improvement strategies for non-ST-segment elevation acute coronary syndromes." *American Family Physician* 70, no. 10(1868): 15 UI 15571056.

Romano, C. L., and E. Cecca. "Pin-pricks and pins' tricks: a new method to reduce pin-prick pain of intramuscular and subcutaneous injections." *Anesthesia & Analgesia* 99, no. 6(1873) UI 15562096.

Roykulcharoen, V., and M. Good. "Systematic relaxation to relieve postoperative pain." *Journal of Advanced Nursing* 48, no. 2(2004): 140-8 UI 15369494.

BACKGROUND: Unrelieved pain after surgery can lead to complications, prolonged hospital stay, and delayed recovery. Because of side effects from opioids and differences in response, it is important to use non-pharmacological methods in addition to analgesics to decrease patient discomfort and anxiety. AIMS: We examined the effects of a systematic method of relaxing the body on the sensory and affective components of postoperative pain, anxiety, and opioid intake after initial ambulation. DESIGN: A randomized controlled trial with relaxation and control groups was used. METHOD: The convenience sample of 102 adults underwent abdominal surgery at a large hospital in Thailand. Systematic relaxation was used for 15 minutes during recovery from the first ambulation after surgery. Pain was measured with 100 mm Visual Analogue Sensation and Distress of Pain Scales before and after the intervention. State anxiety was measured before surgery and after the intervention; opioid intake was recorded 6 hours later. RESULTS: The relaxation group had less post-test sensation and distress of pain (26 and 25 mm less, respectively) than the control group (P = 0.001). Relaxation did not result in significantly less anxiety or 6-hour opioid intake. However, group differences in state anxiety were in the expected direction and fewer participants in the relaxation group requested opioids. Nearly all reported that systematic relaxation reduced their pain and increased their sense of control. CONCLUSION: Substantial reductions in the sensation and distress of pain were found when postoperative patients used systematic relaxation. Although tested in Thailand, we recommend that nurses in other countries try systematic relaxation with postoperative patients, in addition to analgesic medication, measuring pain scores and asking about cultural acceptance.

Sarkar, S., et al. "Patients with chest pain and occult gastroesophageal reflux demonstrate visceral pain hypersensitivity which may be partially responsive to acid suppression." *American Journal of Gastroenterology* 99, no. 10(1998): 1998-2006 UI 15447763.

OBJECTIVES: Mechanisms of chest pain in gastroesophageal reflux disease (GERD) are poorly understood. The recent demonstration in healthy subjects that lower esophageal acid exposure induces pain hypersensitivity within the non-acid-exposed upper esophagus (secondary allodynia) raises the possibility that an increase in spinal neuronal excitability (i.e., central sensitization) contributes to chest pain in GERD. The aim of this study was to determine whether in patients with unexplained chest pain, acid reflux contributes to esophageal pain hypersensitivity. METHODS: In 14 patients with chest pain and GERD and 8 healthy volunteers, electrical pain thresholds (PT) were recorded from the upper esophagus before, and then repeatedly for 90 min after either hydrochloric acid (0.15 M) or saline (0.15 M) infusion into the lower esophagus. Six patients underwent a repeat study after 6 wk

of high-dose proton pump inhibitor (PPI) therapy. RESULTS: GERD patients had lower resting upper esophageal PT than in healthy subjects (40.8 +/- 9 mA and 70.4 +/- 11 mA, respectively; p= 0.018). Acid infusion reduced PT in the non-acid-exposed upper esophagus in healthy subjects, but not in the patients (area under curve [AUC] - 304 +/- 333 and 786 +/- 464; p= 0.03, respectively). Following PPI therapy, resting PT increased (34.65 +/- 13.4 to 40.5 +/- 12.5 mA; p= 0.03), and a reduction in PT now occurred in acid infusion (AUC - 369 +/- 321; p= 0.03). CONCLUSIONS: Patients with unexplained chest pain and occult GERD have esophageal pain hypersensitivity that is PPI responsive. The increase in resting PT and secondary allodynia only following PPI therapy suggests that pain hypersensitivity in these GERD patients may partially be the result of central sensitization.

Schneider, E. M., et al. "Immunomodulatory function of the 5-HT3 receptor antagonist tropisetron." *Scandinavian Journal of Rheumatology Supplement* 119(2004): 34-40 UI 15515411.

OBJECTIVE: To characterize the immune modulatory effects of 5-HT3 receptor antagonist treatment in patients with fibromyalgia, autoimmune disorders, and chronic pain. METHODS: Multiplex-assisted cytokine measurements were performed before and during treatment. Whole blood stimulation with TNF-alpha was carried out to determine the proinflammatory response induced by exogenous TNF-alpha. RESULTS: Five of nine patients clinically responded to treatment, and two had a moderate response. All patients had significantly elevated levels of T-H1 cytokines more prominent than TNF-alpha, IL-1beta, and IL-6. Treatment resulted in transient effects on peripheral monocyte counts in all but one patient, a plasma IL-1beta increase in two responder patients, and decreased T-H1 cytokines in two responder patients. Ex vivo TNF-alpha stimulation was transiently reconstituted in three responder patients to a significant level. Three patients showed a marginal reconstitutive response. CONCLUSION: 5-HT3 receptor blockade transiently affects monocyte tissue infiltration, modulates T-H1 cytokines in clinical responders as well as MIP-1beta in moderate responders, and transiently affects the ex vivo response to exogenous TNF-alpha.

Schuler, M., et al. "Acute and chronic pain in geriatrics: clinical characteristics of pain and the influence of cognition." *Pain Medicine* 5, no. 3(2004): 253-62 UI 15367303.

OBJECTIVE: This study aimed to identify which of the well-known characteristics of chronic pain patients are seen even in older patients with multiple comorbidities and considerable functional impairments and how cognition influences patients' reports of acute and chronic pain. DESIGN: A cross-sectional study. SETTING: Inpatients of acute and rehabilitation wards of a German geriatric hospital. PATIENTS: Patients with acute (N=36) or chronic (N=55) nonmalignant pain. MEASUREMENTS: A comprehensive assessment was conducted, including a structured pain interview and pain assessments using Folstein's mini-mental state (MMS) examination, the Clock Drawing Test (CDT), a short form of Yesavage's Geriatric Depression Scale (GDS), and Spielberger's State-Trait Anxiety Inventory (STAI). The Barthel Index was used to measure the activities of daily living (ADL) at admittance and discharge. RESULTS: Geriatric patients with chronic pain described more pain sites, used a larger number of pain descriptors, used more analgesics at discharge, and reported both a lower degree of pain reduction during therapy and a lower reduction of disability during hospital stay than did acute pain patients. Anxious and depressive symptoms and difficulty falling asleep tended to be higher in chronic pain patients than in acute pain patients. Cognitively impaired patients described the location of their acute pain as similar to patients with chronic pain and as less precise than did cognitively less-impaired patients. Report of pain intensity and in improvement in the ADL measure were independent of cognitive status.

CONCLUSIONS: Geriatric inpatients with chronic pain differ from acute pain patients in pain description, pain reduction during treatment, use of analgesics, and emotional distress. Cognitive impairment seems to change the ability to localize acute pain. In our study, the perception of pain intensity was independent of cognition. Because of the small sample size, further studies are needed to confirm these findings. Multiprofessional, intense rehabilitation programs for geriatric patients with chronic pain are considered of prime importance.

Simpson, D., and K. Wellington. "Nicorandil: a review of its use in the management of stable angina pectoris, including high-risk patients." *Drugs* 64, no. 17(1941): 1941-55 UI 15329045.

Nicorandil (Adancor, Angicor, Dancor, Nikoril [Europe], Ikorel [Europe and Oceania], Sigmart [Japan, Korea and Taiwan]) is an adenosine triphosphate (ATP)-sensitive potassium (KATP) channel agonist with nitrate-like properties used in the management of stable angina pectoris. With well established monotherapeutic antianginal activity and a beneficial effect (when added to optimal antianginal therapy) on clinical outcomes in high-risk patients with stable angina, twice-daily oral nicorandil is a useful alternative or addition to other antianginal therapy. [References: 96]

Slipman, C. "Posterior joints of the lumbar spine as a potential cause of low back pain." *Pain Medicine* 5, no. 3(2004): 287-8 UI 15367307.

Smith, J. "Prevention and management of back pain in nurses." *Nursing Times* 100, no. 41(2004): 28-9 UI 15517730.

Back pain is common in adults and may be associated with personal, psychosocial and biomechanical risk factors. Nursing is considered to be a high-risk occupation for back pain, but personal and work-based strategies can help to reduce the risk.

Soto, J. A. "Cross-sectional imaging of acute diseases of the abdominal aorta and its branches." *Emergency Radiology* 11, no. 1(2004): 29-36 UI 15309663.

Soyka, M., M. Backmund, and S. Hasemann. "Tramadol use and dependence in chronic noncancer pain patients." *Pharmacopsychiatry* 37, no. 4(2004): 191-2 UI 15467978.

Sra, K. K., and S. K. Tyring. "Treatment of postherpetic neuralgia." *Skin Therapy Letter* 9, no. 8(2004): 1-4 UI 15550990.

Postherpetic neuralgia (PHN) is a serious complication of herpes zoster that has a predilection for older individuals. PHN is often associated with significant morbidity, and it can cause insomnia, fatigue, depression and interference with daily activities in affected individuals. Treatment for PHN is initiated with antivirals during the acute herpes zoster outbreak. Acyclovir (Zoviraxr, GlaxoSmithKline), valacyclovir (Valtrex, GlaxoSmithKline) or famciclovir (Famvir, Novartis) can be used to treat herpes zoster, and all three have been shown to reduce the duration of the herpetic rash and zoster-associated pain. These antivirals are most effective when used within the first 72 hours of the onset of the rash. Side-effects of these antivirals are low and include nausea, vomiting, abdominal pain and headache. Other treatment options for PHN include topical analgesics, opioid analgesics, tricyclic antidepressants and gabapentin. Because of the complexity of PHN, most patients require a combination of treatment modalities for adequate pain relief.

Staud, R., et al. "Spatial summation of heat pain within and across dermatomes in fibromyalgia patients and pain-free subjects." *Pain* 111, no. 3(2004): 342-50 UI 15363878.

The mechanisms of spatial summation of pain (SSP) include pain coding dependent on impulse frequency and the number of recruited central neurons. However, SSP may also be influenced by pain inhibitory mechanisms, such as diffuse noxious inhibitory controls. Abnormal interactions between pain inhibitory mechanisms and SSP may be relevant for chronic pain conditions such as fibromyalgia (FM) and may help explain why widespread pain is characteristic for this chronic pain syndrome. The present study was designed to determine the difference of thermal SSP in the upper extremities between FM and normal control (NC) subjects, particularly within and across dermatomes of the hand. Fourteen NC and 19 FM subjects were enrolled in this study. SSP testing sessions involved immersion of each individual fingertip as well as stepwise immersion of the fingers, hands, and forearms in a hot water bath (46 degrees Celsius) for 5s and 20s. In addition, immersion of several fingertips across dermatome C(7)-C(8) was compared to progressive immersion of the index finger (dermatome C(7)). These experiments demonstrated significant spatial summation of heat-induced pain in both FM and NC subjects. SSP was most extensive within the fingers, and became negligible as the stimulus area increased above the hand. Furthermore, SSP was more pronounced within one dermatome such as that of the index finger than across several dermatomes of the hand. These results were similar for both FM and NC subjects. Thus, mechanisms of SSP, including possible inhibitory factors that limit this relevant pain mechanism, appear to be similar for both FM and NC subjects.

Steinhart, B. D. "Acute coronary syndromes.[comment]." *CMAJ Canadian Medical Association Journal* 171, no. 11(1322): 1322-3 UI 15557567.

Stratz, T., and W. Muller. "Treatment of chronic low back pain with tropisetron." *Scandinavian Journal of Rheumatology Supplement* 119(2004): 76-8 UI 15515421.

BACKGROUND: Various pathophysiological processes can lead to chronic back pain, which necessitates a differentiated therapeutic approach. In addition, psychic and psychosocial processes may influence the clinical picture. METHOD: Twenty-five patients with chronic back pain were enrolled in the study. Patients suffering from psychosocial stresses and depressions were excluded from the study. The patients with painful tendinopathies and myofascial pain syndromes were treated with local injections of 5-10 mg tropisetron, and patients with degenerative processes were treated for 5 days with an intravenous (i.v.) bolus injection of 5 mg tropisetron (Navoban). Before treatment and 7 and 14 days later, the visual analog pain scale was filled in. The long-term drug therapy could be continued. RESULTS: There was a highly significant pain reduction with a very potent effect both in the locally treated group and in the intravenously treated group. Most of the patients could discontinue or reduce their long-term therapy with non-steroidal anti-inflammatory drugs or analgesics. CONCLUSION: A marked improvement in pain could be achieved in an open study by treating back pain of a primarily somatic nature with the 5-HT3 receptor antagonist tropisetron. A reduction in pain of > or =50% was reported by 76% of the patients. These results should be substantiated by the corresponding randomized, placebo-controlled, double blind studies that are needed to investigate the true benefit of treating back pain with 5-HT3 receptor antagonists.

Sullivan, M., J. A. Paice, and F. Benedetti. "Placebos and treatment of pain." *Pain Medicine* 5, no. 3(2004): 325-8 UI 15367313.

Swank, D. J., and H. Jeekel. "Laparoscopic adhesiolysis in patients with chronic abdominal pain." *Current Opinion in Obstetrics & Gynecology* 16, no. 4(2004): 313-8 UI 15232485.

PURPOSE OF REVIEW: The purpose of this review was to evaluate the indications, safety, and efficacy of laparoscopic adhesiolysis and its prevention in patients with

chronic abdominal pain. RECENT FINDINGS: The safety of laparoscopic adhesiolysis can be improved by using an optic trocar for laparoscopy, by using an ultrasonic technique for adhesiolysis, and by taking care with regard to risk factors. Although many studies have reported pain reduction after laparoscopic adhesiolysis, a recent randomized study showed no more pain relief than with diagnostic laparoscopy alone. The regrowth of adhesions after adhesiolysis is less after the laparoscopic technique compared with open surgery. Liquid products can prevent the formation of adhesions, but their clinical efficacy has not yet been proved in randomized studies in humans. SUMMARY: Older patients with a greater number of previous abdominal operations are more prone to complications in laparoscopic surgery. The introduction of a Veress needle into the ninth intercostal space, the use of an optic trocar and ultrasonic dissection can reduce the incidence of iatrogenic bowel perforations. For chronic pain, diagnostic laparoscopy is encouraged, but laparoscopic adhesiolysis is no longer recommended; its benefit being no greater than that of diagnostic laparoscopy alone. Copyright 2004 Lippincott Williams and Wilkins [References: 29]

Szczukowski, M. J., Jr., et al. "Femoral nerve block for total knee arthroplasty patients: a method to control postoperative pain." *Journal of Arthroplasty* 19, no. 6(2004): 720-5 UI 15343531.

This study was designed to determine the effects of a single-injection femoral nerve block (FNB) using 30 mL of 0.5% bupivacaine with epinephrine 1:200,000, on pain control following total knee arthroplasty (TKA). Forty patients were randomly distributed into 2 groups: Group A received general anesthesia plus a FNB (n = 19), whereas Group B received general anesthesia plus a FNB with 30 mL of preservative-free saline (n = 21). The amount of morphine used, sedation, and average pain perception were measured for the first 24 hours and daily postoperatively. Group A used significantly less morphine (48.1 mg) compared with Group B, which used 76.2 mg during the first 24 hours after surgery (P = 0.003). Group A's sedation scale was significantly less than group B's (2.26 vs 2.67) (P = 0.045). The average pain perception was significantly different (P =.002). Postoperative management of pain following TKA can be improved through a preoperative single-injection FNB with 0.5% bupivacaine plus epinephrine 1:200,000. The cost is minimal, risks appear acceptable, and the procedure is efficacious.

Tenti, G., and D. Hauri. "Pain and its treatment in urology." *Urologia Internationalis* 73, no. 2(2004): 97-109 UI 15331891.

Although untreated/undertreated pain leads to a variety of somatic, psychological and socioeconomic harm, the knowledge of its physiology, diagnosis and adequate treatment is generally low among urologists. This review has the primary goal to sensitize us urologists to this underrated topic. [References: 49]

Tobinick, E., and S. Davoodifar. "Efficacy of etanercept delivered by perispinal administration for chronic back and/or neck disc-related pain: a study of clinical observations in 143 patients." *Current Medical Research & Opinion* 20, no. 7(1075): 1075-85 UI 15265252.

OBJECTIVE: Documentation of the clinical results obtained utilizing perispinal etanercept off-label for treatment-refractory back and neck pain in a clinical practice setting. RESEARCH DESIGN AND METHODS: The medical charts of all patients who were treated with etanercept for back or neck pain at a single private medical clinic in 2003 were reviewed retrospectively. Patients were treated if they had disc-related pain which was chronic, treatment-refractory, present every day for at least 8 h, and of moderate or severe intensity. Patients with active infection, demyelinating disease, uncontrolled diabetes, lymphoma or immunosuppression were excluded from treatment with etanercept. Etanercept 25 mg was administered by subcutaneous injection directly overlying the spine. Visual Analogue Scales (VAS, 0-10 cm) for intensity of pain, sensory disturbance, and weakness prior to and 20 min,

1 day, 1 week, 2 weeks, and 1 month after treatment were completed. Inclusion criteria for analysis required baseline and treatment VAS data. MAIN OUTCOME MEASURES: Before and after treatment VAS comparisons for intensity of pain, sensory disturbance, and weakness. RESULTS: 143 charts out of 204 met the inclusion VAS criteria. The 143 patients had a mean age of 55.8 +/- 14, duration of pain of 9.8 +/- 11 years, and an initial Oswestry Disability Index of 42.8 +/- 18, with 83% having back pain, 61% sciatica, and 33% neck pain. 30% had previous spinal surgery, and 69% had previously received epidural steroid injections (mean 3.0 +/- 3). The patients received a mean of 2.3 +/- 0.7 doses of perispinal etanercept separated by a mean interval of 13.6 +/- 16.3 days. The mean VAS intensity of pain, sensory disturbance, and weakness were significantly reduced after perispinal etanercept at 20 min, 1 day, 1 week, 2 weeks, and 1 month with a $p < 0.0001$ at each time interval for the first dose in this patient population. CONCLUSIONS: Perispinal etanercept is a new treatment modality which can lead to significant clinical improvement in selected patients with chronic, treatment-refractory disc-related pain. Generalizability of the present study results is limited by the open-label, uncontrolled methodology employed. Based on this and other accumulating recent studies, etanercept may be useful for both acute and chronic disc-related pain. Further study of this new treatment modality utilizing double-blind placebo controlled methodology is indicated. NOTE: This treatment method is protected by multiple patents awarded to Edward Tobinick MD, including U. S. patents 6 015 557; 6 177 077; 6 419 944; 6 537 549 and Australian patent 758 523.

Todd, M. "Meperidine and the management of pain: what you need to know." *Lippincott's Case Management* 9, no. 5(2004): 241-2 UI 15540079.

Tolk, J., R. Kohnen, and W. Muller. "Intravenous treatment of fibromyalgia with the 5-HT3 receptor antagonist tropisetron in a rheumatological practice." *Scandinavian Journal of Rheumatology Supplement* 119(2004): 72-5 UI 15515420.

In 223 fibromyalgia (FM) patients in a rheumatology practice, a follow-up postal survey was carried out 0.5-2 years after a 5-day intravenous (i.v.) treatment with 5 mg of the 5-HT3 receptor antagonist tropisetron daily on the effect of this treatment. 121 patients returned the completed questionnaire. After subtraction of 22 undeliverable questionnaires, this represented 60.2% of patients contacted for whom an assessment of the tropisetron treatment was possible. A good to very good effect of the treatment on the pain was reported by 45% of the patients, and only 25% reported an unsatisfactory effect. The effect of tropisetron IV lasted between one day and 12 weeks (mean 8.6 +/- 13.6 d). Sleep and general condition were also assessed as good or very good by almost half of the patients. The tolerance of tropisetron was generally good. In comparison with the current treatment and the best treatment with other drugs ever received, tropisetron was rated as more efficacious in almost half of the cases, though an unsatisfactory effect of tropisetron compared to other treatments was reported in 30% of the cases. Considered in comparison to less or at most equally efficacious alternatives, according to this open respective study, IV tropisetron treatment represents a promising option for the treatment of FM even though the study design incorporated many imponderables. Particularly the question of whether the success of treatment can be improved further with a longer lasting treatment or a selection of the patients still needs to be settled.

Topazian, M., et al. "Improved predictors of outcome in postcholecystectomy pain." *Journal of Clinical Gastroenterology* 38, no. 8(2004): 692-6 UI 15319654.

BACKGROUND: Endoscopic interventions have limited efficacy in sphincter of Oddi dysfunction (SOD) Type 3. Improved predictors of response to treatment are needed. METHODS: Patients with postcholecystectomy pain underwent a standardized history and physical examination and were then managed individually.

Long-term outcome was determined by record review and telephone interview. Initial predictors of response to treatment were assessed. RESULTS: Mean follow-up for the 74 subjects was 36 months. Fifty were improved, and 24 had persistent pain. Patients were likely to respond to sphincterotomy if their pain was not continuous, if it was accompanied by nausea or vomiting, and if there had been a pain free interval after cholecystectomy of at least 1 year. When 2 or 3 of these predictors were present, 85% of SOD Type 2 patients and 56% of Type 3 patients had a good response. Initial history and examination features also predicted response to treatment of neuropathic pain. CONCLUSION: Among patients with postcholecystectomy pain, specific features of the initial history and examination predict response to treatment with higher accuracy than the SOD grade. These predictors identify a subset of Type 3 patients likely to respond to sphincterotomy.

Ujiki, M. B., et al. "One hundred consecutive laparoscopic ventral hernia repairs." *American Journal of Surgery* 188, no. 5(2004): 593-7 UI 15546577.

BACKGROUND: Laparoscopic ventral hernia repair is becoming a promising alternative with many potential advantages, but this procedure is still under study. Our objective was to evaluate the efficacy of the laparoscopic approach to ventral hernia repair. METHODS: One hundred consecutive laparoscopic ventral hernia repairs between April 2000 and February 2003 were prospectively entered into a database and reviewed. RESULTS: Ninety-seven ventral hernia repairs were completed laparoscopically. The mean time in the operating room was 128 minutes (range 37 to 255). The average length of stay was 2 days (range 0 to 9). The mortality rate was 0%. A total of 23% of patients experienced postoperative complications. Over a mean follow-up period of 3 months (range 0 to 26), 6% (6 of 97) of patients experienced recurrences. CONCLUSIONS: Laparoscopic ventral hernia repair can be safely performed with a low conversion rate and acceptable recurrence rate, operative time, length of stay, and morbidity. Securing the mesh with full-thickness abdominal wall sutures in at least 4 quadrants remains a key factor in preventing early recurrence.

Unutzer, J., et al. "Pharmacotherapy of pain in depressed older adults." *Journal of the American Geriatrics Society* 52, no. 11(1916): 1916-22 UI 15507072.

OBJECTIVES: To examine pharmacotherapy for pain in a sample of 1,801 depressed older primary care patients. DESIGN: Cross-sectional survey data collected from 1999 to 2001. SETTING: Eighteen primary care clinics belonging to eight healthcare organizations in five states. PARTICIPANTS: One thousand eight hundred one patients aged 60 and older who met diagnostic criteria for major depression or dysthymia. MEASUREMENTS: Diagnoses or treatment for chronic pain, functional impairment from pain, and use of over-the-counter and prescription analgesic medications. RESULTS: One thousand four hundred sixteen (79%) participants reported functional impairment from pain in the previous month, and 1,024 (57%) reported a diagnosis of or treatment for chronic pain in the previous 3 years. Fifty-one percent of those with recent functional impairment from pain reported any analgesic use, ranging from 31% to 75% across the participating healthcare organizations. Opioid analgesic use varied from 5% to 34%. Predictors of analgesic use included a history of chronic pain or arthritis and the degree of functional impairment from pain in the previous month. Differences in analgesic use across participating organizations remained significant after adjusting for clinical and demographic covariates. CONCLUSION: Most depressed older adults in the sample reported recent functional impairment from pain and a history of chronic pain, but almost half of those with functional impairment from pain did not report using analgesic medications. Participating organizations varied substantially in their use of analgesics, suggesting that there is room to improve the quality of pain management in depressed older adults.

Vas, J., et al. "Acupuncture as a complementary therapy to the pharmacological treatment of osteoarthritis of the knee: randomised controlled trial." *Bmj* 329, no. 7476(1216): 20 UI 15494348.

OBJECTIVES: To analyse the efficacy of acupuncture as a complementary therapy to the pharmacological treatment of osteoarthritis of the knee, with respect to pain relief, reduction of stiffness, and increased physical function during treatment; modifications in the consumption of diclofenac during treatment; and changes in the patient's quality of life. DESIGN: Randomised, controlled, single blind trial, with blinded evaluation and statistical analysis of results. SETTING: Pain management unit in a public primary care centre in southern Spain, over a period of two years. PARTICIPANTS: 97 outpatients presenting with osteoarthritis of the knee. INTERVENTIONS: Patients were randomly separated into two groups, one receiving acupuncture plus diclofenac (n = 48) and the other placebo acupuncture plus diclofenac (n = 49). MAIN OUTCOME MEASURES: The clinical variables examined included intensity of pain as measured by a visual analogue scale; pain, stiffness, and physical function subscales of the Western Ontario and McMaster Universities (WOMAC) osteoarthritis index; dosage of diclofenac taken during treatment; and the profile of quality of life in the chronically ill (PQLC) instrument, evaluated before and after the treatment programme. RESULTS: 88 patients completed the trial. In the intention to treat analysis, the WOMAC index presented a greater reduction in the intervention group than in the control group (mean difference 23.9, 95% confidence interval 15.0 to 32.8) The reduction was greater in the subscale of functional activity. The same result was observed in the pain visual analogue scale, with a reduction of 26.6 (18.5 to 34.8). The PQLC results indicate that acupuncture treatment produces significant changes in physical capability (P = 0.021) and psychological functioning (P = 0.046). Three patients reported bruising after the acupuncture sessions. CONCLUSIONS: Acupuncture plus diclofenac is more effective than placebo acupuncture plus diclofenac for the symptomatic treatment of osteoarthritis of the knee.

Visscher, C. M., F. Lobbezoo, and M. Naeije. "Comparison of algometry and palpation in the recognition of temporomandibular disorder pain complaints." *Journal of Orofacial Pain* 18, no. 3(2004): 214-9 UI 15509000.

AIMS: To determine the construct validity of algometry and to compare it with that of palpation, and to compare tenderness of masticatory muscle sites and the temporomandibular joint (TMJ) on palpation and on algometry. Methods: Two hundred fifty subjects, 148 with temporomandibular disorder (TMD) pain complaints, underwent a standardized blinded physical examination that included pain-intensity measures on palpation and pressure pain threshold measures on algometry of masseter muscle sites, temporalis muscle sites, and the TMJ. Results: Logistic regression analysis indicated that the recognition of TMD pain complaints based on pressure algometry was comparable to that of palpation (R2 = 0.22 and R2 = 0.21, respectively). The masseter muscles were most tender to palpation and algometry, followed by the TMJs and the temporalis muscles. Conclusion: Construct validity of algometry in the recognition of TMD pain complaints is comparable to that of palpation, and differences in tenderness on palpation and on algometry are found between masticatory muscle sites and the TMJ.

Vollenbroek-Hutten, M. M., et al. "Differences in outcome of a multidisciplinary treatment between subgroups of chronic low back pain patients defined using two multiaxial assessment instruments: the multidimensional pain inventory and lumbar dynamometry." *Clinical Rehabilitation* 18, no. 5(2004): 566-79 UI 15293491.

OBJECTIVE: To investigate the effects of a multidisciplinary back school programme (Roessingh Back Rehabilitation Programme, RRP) compared with usual care, as well as differences in treatment outcome between subgroups defined using two multiaxial assessment instruments: the Multidimensional Pain Inventory (MPI-

DLV) and lumbar dynamometry. DESIGN: Randomized controlled trial. SETTING: Rehabilitation. SUBJECTS: One hundred and sixty-three patients with chronic, aspecific low back pain. INTERVENTION: All subjects were randomly assigned either to a multidisciplinary, physically oriented group treatment or to their usual care. MAIN OUTCOME MEASURES: The Roland Disability Questionnaire and health-related quality of life (EuroQol, EQ5-D) were measured as primary outcomes before randomization and after eight weeks and six months follow-up. RESULT: Only 30-50% of the patients in the RRP group showed improvement and this number is not significantly different from the control group. Subgroup analyses give some first indications that multiaxial measurement instruments can be used to identify subgroups with differences in treatment effects. CONCLUSION: The overall effect of a multidisciplinary treatment is disappointing, however multiaxial assessment before admission might be valuable in clinical practice, resulting in more effective treatments for patients with chronic low back pain.

Vossinakis, I. C., et al. "Reducing the pain associated with local anaesthetic infiltration for open carpal tunnel decompression." *Journal of Hand Surgery British* 29, no. 4(2004): 399-401 UI 15234509.

This prospective, randomized study assessed the effectiveness of buffering lidocaine with sodium bicarbonate for reducing the pain associated with local anaesthetic infiltration for open carpal tunnel decompression. Twenty-one patients undergoing bilateral open carpal tunnel decompression received, in a randomized manner, lidocaine 1% with adrenaline (1:200,000) in one hand and the same local anaesthetic buffered with 8.4% NaHCO3 at a 5:1 ratio in the other hand. Pain, especially its burning element, was evaluated on a visual analogue scale and was significantly reduced with the buffered solution. The buffering was effective for all patients and no adverse effects were noted. This is a safe, easy and quick method for making open carpal tunnel surgery less uncomfortable to patients.

Wank, R., T. T. Miller, and J. F. Shapiro. "Sonographically guided injection of anesthetic for iliopsoas tendinopathy after total hip arthroplasty." *Journal of Clinical Ultrasound* 32, no. 7(2004): 354-7 UI 15293303.

We report 2 patients who developed pain in the region of the iliopsoas tendon after undergoing total hip arthroplasty. The pain was temporarily relieved by sonographically guided injection of steroid and anesthetic and was subsequently treated by surgical release of the tendon. Copyright 2004 Wiley Periodicals, Inc.

Wells, N., et al. "Establishing the safety and efficacy of an opioid titration protocol." *American Journal of Hospice & Palliative Care* 21, no. 5(2004): 373-80 UI 15510575.

The primary goal of this single-group study was to determine the safety of a standard opioid titration order sheet to manage pain in ambulatory cancer patients. Secondary goals were to examine opioid toxicity and efficacy of this pain protocol. Twenty-seven patients who required fixed-dose opioids and who had uncontrolled pain were enrolled. All patients had their initial opioid dose titrated by the study physician using the opioid titration order sheet. Data were obtained by the study nurse during a weekly telephone interview and used to determine if pain was controlled. After initial titration, a trained study nurse titrated opioid doses based upon the standing order sheet. At each contact, patients were assessed for adverse effects, pain intensity, and analgesics used. Patients who completed the four-week trial (n = 17) did not differ from patients who did not complete the trial. No adverse effects were observed in 39 opioid titrations completed by the study nurse. Opioid toxicities, worst pain, usual pain, and pain-related distress declined from baseline to week four Patients who were adherent to their prescribed medications reported significantly lower pain intensity and distress (ps < or = . 06). The opioid titration order sheet, used by a trained nurse, is safe to use in ambulatory cancer patients

who have moderate to severe pain. Common opioid toxicities were reduced. The protocol also demonstrated initial efficacy in improving worst and usual pain and pain-related distress. Further research to establish efficacy of the protocol is recommended.

White, R. "Comment: therapy switching in patients receiving long-acting opioids.[comment]." *Annals of Pharmacotherapy* 38, no. 10(1752): 1752-3 UI 15340135.

Wilson, M. E. "Pain management: a growing awareness of the issue." *Journal of Emergency Nursing* 30, no. 5(2004) UI 15452480.

Windebank, A. J., et al. "Role of insulin-like growth factor-I in the treatment of painful small fiber predominant neuropathy." *Journal of the Peripheral Nervous System* 9, no. 3(2004): 183-9 UI 15363067.

Idiopathic, painful, small fiber predominant peripheral neuropathy is resistant to symptomatic treatment. Previous treatments have not been directed toward repairing the underlying deficit. Growth factors hold promise as agents to encourage axonal regrowth. In vitro, insulin-like growth factor-I (IGF-I) has been shown to prevent neuronal apoptosis, to increase axonal growth, and to support myelination. Using a double-blind, placebo-controlled design, 40 patients were randomized to treatment with recombinant human IGF-I (0.05 mg/kg twice daily by subcutaneous injection) or placebo for 6 months. There were no significant adverse events and minor adverse events occurred equally in both groups. The primary outcome measure was change in score on an analog pain scale. Secondary endpoints included quantitative sensory testing, quantitative autonomic testing, neuropathy impairment score, nerve conduction studies, and neuropathy symptom and change score. There was no significant difference in the primary endpoint between the two groups. Analysis of secondary endpoints and a global impression of improvement by patients and physicians did not show consistent differences between the groups. IGF-I was safe, but did not improve symptoms in this 6-month trial.

Yeh, C. C., et al. "Analgesic effects of preincisional administration of dextromethorphan and tenoxicam following laparoscopic cholecystectomy." *Acta Anaesthesiologica Scandinavica* 48, no. 8(1049): 1049-53 UI 15315625.

BACKGROUND: Pre-incisional treatment with either N-methyl-D-aspartate (NMDA) receptor antagonists or non-steroidal anti-inflammatory drugs (NSAIDs) improves postoperative pain relief. This study examines the effect on postlaparoscopic cholecystectomy (LC) pain of a combination of dextromethorphan (DM), a NMDA-receptor antagonist, and tenoxicam, a NSAID, given preoperatively. METHODS: Eighty-eight ASA I or II patients scheduled for LC were entered into a randomized, double-blind study and randomly allocated to one of four groups. Controls received 20 mg (4 ml) of chlorpheniramine maleate (CPM) IM and 4 ml of normal saline (N/S) IV. Group DM received 40 mg of DM (containing 20 mg of CPM) IM and 4 ml of N/S IV. Group T were given CPM 20 mg IM, and tenoxicam 40 mg (4 ml) IV. Group DM + T were given DM 40 mg (containing 20 mg of CPM) IM, and tenoxicam 40 mg IV. All treatments were given 30 min before skin incision. Analgesic effects were evaluated by Visual Analog Scale (VAS) pain scores at rest and during coughing, at 1, 2, 4, 12, 24 and 48 h after surgery. The time to the first request for meperidine for pain relief, and total meperidine consumption, were recorded for 48 h after surgery. RESULTS: Compared to controls, patients given DM and DM + T first requested meperidine significantly later, had lower meperidine consumption, made fewer requests for meperidine, and had lower pain scores. There were significant differences between the DM + T and T groups at 2 and 4 h in both resting and incident VAS pain scores, the incidence of meperidine requests and the time to first meperidine injection. There were significant differences between groups

DM and T at 1 h for resting pain and at 2 and 4 h for incident pain. Except for a significant difference in the incident pain score 1 h after surgery, there were no other differences in pain scores between the DM and DM + T groups. Neither synergistic nor antagonistic interaction was observed between DM and tenoxicam. CONCLUSIONS: The results suggest that pretreatment with DM, but not tenoxicam, provides significant pre-emptive analgesia for postoperative pain management in patients after LC surgery. Combining DM and tenoxicam also gives good pain relief.

Yildiz, S., et al. "A new treatment modality for fibromyalgia syndrome: hyperbaric oxygen therapy." *Journal of International Medical Research* 32, no. 3(2004): 263-7 UI 15174219.

Fibromyalgia syndrome (FMS) is characterized by longstanding multifocal pain with generalized allodynia/hyperalgesia. There are several treatment methods but none has been specifically approved for this application. We conducted a randomized controlled study to evaluate the effect of hyperbaric oxygen (HBO) therapy in FMS (HBO group: n = 26; control group: n = 24). Tender points and pain threshold were assessed before, and after the first and fifteenth sessions of therapy. Pain was also scored on a visual analogue scale (VAS). There was a significant reduction in tender points and VAS scores and a significant increase in pain threshold of the HBO group after the first and fifteenth therapy sessions. There was also a significant difference between the HBO and control groups for all parameters except the VAS scores after the first session. We conclude that HBO therapy has an important role in managing FMS.

Yoldas, O., et al. "Postoperative pain after endodontic retreatment: single- versus two-visit treatment." *Oral Surgery Oral Medicine Oral Pathology Oral Radiology & Endodontics* 98, no. 4(2004): 483-7 UI 15472665.

OBJECTIVE: The purpose of this clinical study was to determine the effect of 1- or 2-visit root canal treatment on the postoperative pain in the retreatment cases. STUDY DESIGN: Two hundred eighteen cases that required retreatment were included in the study. Obturated and unfilled canal space and the status of periapical tissues were evaluated according to the PAI index. The patients were subcategorized in regard to the presence or the absence of preoperative pain. Approximately half of each category was treated in 1 appointment. After removing the previous root canal obturation materials and biomechanic preparation of root canals, the teeth in the 1-visit group were obturated at the first appointment by using AH 26 sealer and laterally compacted gutta-percha, and those in the 2-visit group were medicated with calcium hydroxide-chlorhexidine combination and then closed with a temporary filling material. One week after the initial appointment, patients were asked about the occurrence of postoperative pain. The level of discomfort was rated as no pain, mild pain, moderate pain, or severe pain (flare-up). Data were statistically analyzed using the chi-squared and Fischer exact tests. RESULTS: Eight patients from the 1-visit group and 2 patients from the 2-visit group had flare-ups. There was a statistical difference between the groups ($P < .05$). Two-visit root canal treatment was more effective in completely eliminating pain than 1-visit treatment of previously symptomatic teeth ($P < .05$). CONCLUSIONS: Two-visit endodontic treatment with intracanal medication was found to be effective in reducing postoperative pain of previously symptomatic teeth and decreased the number of flare-ups in all retreatment cases.

Young, W. B., V. Mateos, and A. Ashkenazi. "Occipital nerve block rapidly eliminates allodynia far from the site of headache: a case report." *Cephalalgia* 24, no. 10(2004): 906-7 UI 15377325.

Zamiri, M., and D. Bilsland. "Treatment of bath PUVA-induced skin pain with gabapentin." *British Journal of Dermatology* 151, no. 2(2004): 516-7 UI 15327572.

Zimmermann, P. G. "Tips for managing pain more effectively." *Journal of Emergency Nursing* 30, no. 5(2004): 470-2 UI 15452527.